

3.205/12:73 X

CHINA'S FAMILY PLANNING PROGRAM: INPUTS AND OUTCOMES

by

Judith Banister

and


Christina Wu Harbaugh



Center for International Research
Bureau of the Census
Washington, D.C. 20233-3700

CIR Staff Paper
No. 73

June 1994



Digitized by the Internet Archive
in 2012 with funding from
LYRASIS Members and Sloan Foundation

<http://archive.org/details/chinasfamilyplan00bani>

**CHINA'S FAMILY PLANNING PROGRAM:
INPUTS AND OUTCOMES**

by

Judith Banister

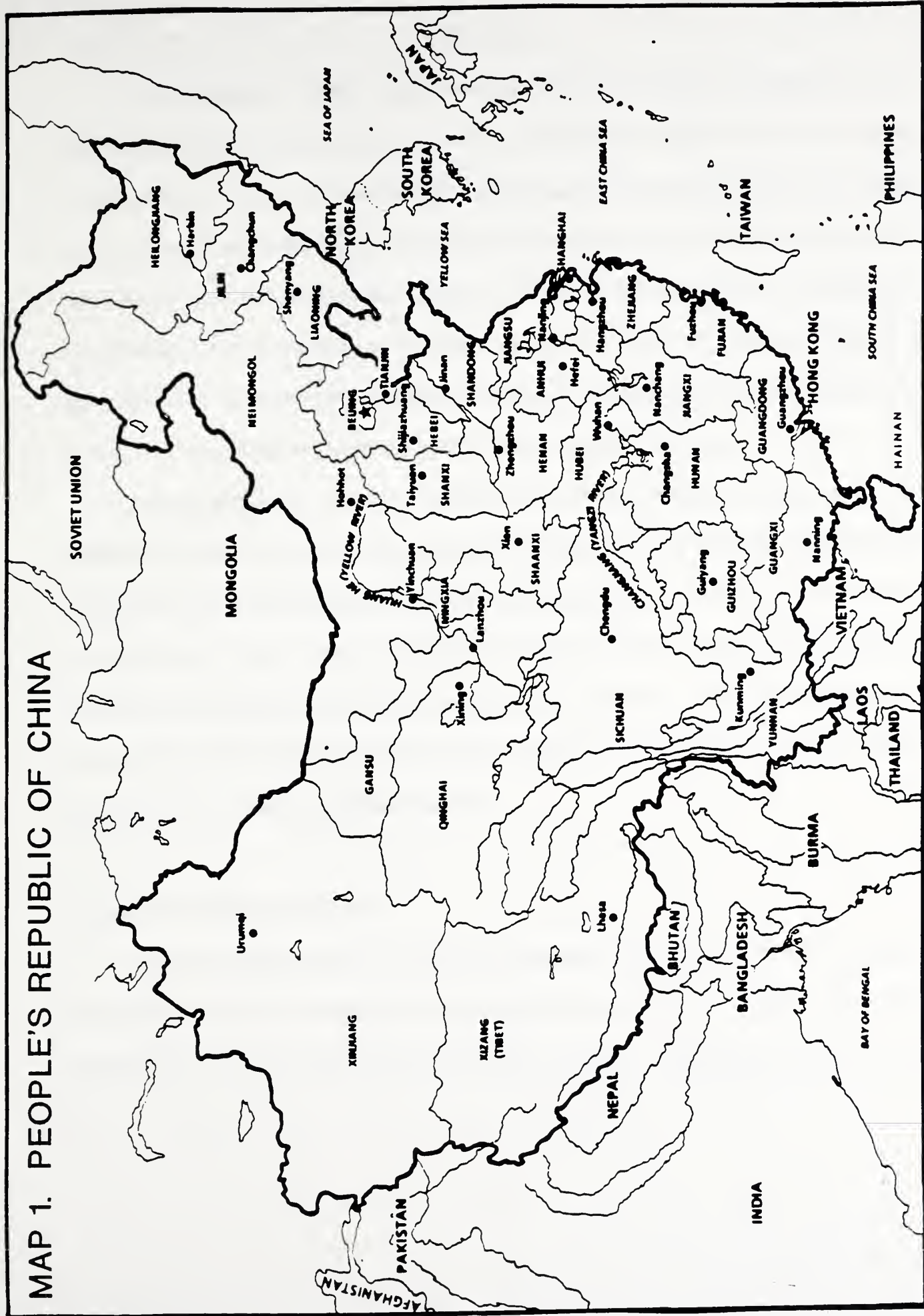
and

Christina Wu Harbaugh

Center for International Research
Bureau of the Census
Washington, D.C. 20233-3700

June 1994

MAP 1. PEOPLE'S REPUBLIC OF CHINA



SUMMARY

Certain aspects of China's family planning program have been well documented, for example, the fertility targets, annual birth rates and total fertility rates, the parity distribution of reported births, data on the contraceptive use rate and contraceptive mix, and the rationale for the methods used in the program. But a surprising range of information has been completely unavailable or very difficult to locate. The main purpose of this report is to fill in as many of those missing pieces as possible, so that interested observers can more fully comprehend the organizational structure, chains of command, staffing, financial aspects, and means of delivery of each kind of birth control technique in the People's Republic of China.

Another purpose is to assess what aspects of China's family planning program are relevant elsewhere and might provide an example for other countries to follow. We note that China has the world's only required family planning program, so far as is known, which lessens the applicability of some aspects of the China model in countries where the government is unwilling or willing but unable to pursue required family planning. Yet by looking closely at the ways that China's family planning program operates, we have discovered some lessons relevant to family planning programs elsewhere.

Population Trends and Dynamics

This report begins with an overview of demographic trends in China in recent decades. Mortality has improved dramatically in the four decades since the PRC was founded, and a life expectancy at birth of about 67 years has been achieved. The death rate is low and

approximately constant, and the infant mortality rate is low but, based on our analysis of survey data from 1988, has not improved further since about 1977.

The report documents the steep drop in fertility in China during the early 1970s, and the fluctuations in the total fertility rate between 2 and 3 births per woman at least through 1991. Reviewing the main proximate determinants of fertility, the report notes that almost all Chinese women marry and have children. The age at marriage for women rose in the 1970s under government pressure, reducing the birth rate in the bargain. But a drop in the regulated minimum marriage ages caused a surge of marriages in the early 1980s that increased the birth rates and total fertility rates¹ in the 1980s. Since 1987 the average age at first marriage for women has risen again, temporarily depressing both these measures of fertility.

According to a 1988 survey, 71 percent of married women of reproductive age in China were practicing family planning. Of those couples, 91 percent were using modern, passive birth control methods that, once implemented, require no incentive on the part of the couple to avoid childbearing. These effective means of birth control are backed up by abortion, sometimes voluntary and at other times mandated by the authorities as a "remedial measure" when women become pregnant without permission. Of those pregnancies in China that do not spontaneously abort, about one-third end in induced abortion.

¹The total fertility rate is the sum of age-specific birth rates of a hypothetical cohort of women over their reproductive span, or the number of children women would have in a lifetime if women lived their entire fertility lifetime with current, constant fertility rates, ignoring mortality.

Family Planning Personnel and Expenditures

After providing an overview of China's major population policies over time, the report compiles and estimates figures for China's national, provincial, and per capita family planning "operational" budgets. It shows that the core national family planning budget doubled in real terms from 1978 to the late 1980s, and that further doubling is being projected by the central government. The report documents what is and is not covered in that formal budget, and provides the main components and total cost of the PRC family planning program in 1985, 1987, and 1989. For each of these years, the actual costs of China's family planning program were about four times the size of the "operational" budget. By 1989, China's family planning program cost just over one U.S. dollar per capita (at the official exchange rate), or almost US\$6 for each married woman of reproductive age. The main category of costs in China's family planning program is the incentives paid to couples who pledge to have only one child.

Fertility Interventions and Their Effectiveness

China's family planning policy is successful, in that people are in general bearing fewer children than they would prefer to have. But government control of fertility in China is far from absolute. The peak of Government intervention in 1983 was accompanied by a popular reaction, which prompted the authorities to temporarily ease the requirements of the program. Some provinces have acquiesced to the rural demand for two children per couple, and in 16 such provinces, rural people are restricted to one child if the firstborn is a son, but allowed two births if the first child is a daughter. The one-child policy, while followed in the cities, has had to be modified in the countryside.

Future Prospects

If the count of young children was complete in the 1990 census, one can estimate that the total fertility rate in the late 1980s dropped to about 2.4 births per woman in 1988 and 1989 and further to around 2.2 in 1990. If babies and children were undercounted, then fertility was slightly higher. There is evidence of further reduction in the TFR to an estimated 1.9 births per woman in 1992. The report argues that a continuing unstable equilibrium can be expected in the 1990s, with Chinese authorities trying to hold fertility below the level desired by the people, and each year millions of women attempting to carry unauthorized pregnancies to term. Fertility per woman might remain steady under this scenario, or decline slightly under the impact of continuing urbanization and further reduction of fertility among the minority groups. It is also possible that changes in China's government policies could result in less vigorous support of the current approaches to family planning, in which case fertility would rise.

Because of sharp changes in mortality and fertility in previous decades, China's age structure is not smooth. China has already experienced a drop in the number of children entering school, due to the fertility decline of the 1970s. The age structure now has a bulge of people in the late teens and early twenties, who are already at peak childbearing ages or soon will be. Hence, further reductions in the birth rate will be difficult for most of the nineties.

During the late 1990s, however, the numbers of people in their teens and early twenties will decline, which will begin to ease the upward pressure on the birth rate and will reduce the numbers of people entering the labor force. This could help to reduce urban unemployment, which in China is a phenomenon concentrated among young adults. The report traces the aging

of China's labor force in the early decades of the coming century, and finally the aging of the population, especially the urban population, by mid-century.

Relevant Lessons from China's Family Planning Program

For countries with voluntary family planning programs, we show that China provides an example of a poor developing country that has tapped domestic resources to fund a relatively effective family planning program. What is required is a government with the will to promote family planning and the capacity to implement a family planning program. Judging from Chinese experience, an advanced economy is not a requirement.

The PRC experience also suggests that the amount of money spent on family planning is not the only determinant of success in controlling fertility. We note that China's family planning program is not static, but adapts over time to changing circumstances, often by making organizational changes rather than just throwing money at it. While there is waste in China's family planning program, there are also attempts to contain costs while still getting the government's desired results.

The China model is also relevant to other countries with regard to the legalization of all forms of birth control. China also demonstrates that a poor country can manage to provide free birth control operations and supplies. The use of international assistance to build the factories that produce contraceptives helps China to do that.

The PRC experience also demonstrates that it is unwise to believe data on acceptors or births when they are reported by family planning workers or local officials. China has shown the importance of conducting independent censuses and surveys to give better estimates of

fertility and family planning use. Similar data constraints and requirements exist in many other countries.

The paper concludes by noting that the required elements of China's family planning program, and the significant incentives and disincentives, are expensive in both financial and social terms. A country that desires to copy the best of the China model might try to minimize these costs while adopting many of China's practical methods for motivating couples to practice family planning and for delivering birth control supplies and operations to the people.

PREFACE

The Center for International Research conducts economic and demographic studies, some of which are issued as Staff Papers. A complete list of these papers is included at the end of this report. The use of data generated by the U.S. Bureau of the Census precludes performing the same statistical reviews the Bureau does on its own data.

This study was prepared as a background paper to a larger World Bank study on Population Issues in Asia by Warren C. Sanderson and Jee-Peng Tan (1993). We would like to express appreciation to them for providing us with this opportunity to analyze the organizational and financial aspects of China's family planning program in order to assess its relevance for other developing countries. We would like to thank Andrea Miles for her assistance with tables, graphs, and maps, and Richard Turnage for design and creation of the maps. The analyses and opinions expressed in this report are those of the authors alone, do not represent the policies of the U.S. Government or the U.S. Bureau of the Census, and should not be attributed to the World Bank or its affiliated organizations.

Comments and questions regarding this study should be addressed to Marc Rubin, Eurasia Branch, Center for International Research, Bureau of the Census, Washington, D.C. 20233; telephone (301) 763-4020.

CONTENTS

Summary	iii
Preface	ix
Contents	xi
I. Introduction	1
A. Required Family Planning	1
B. Determinants of Fertility in China	3
II. Population Trends and Dynamics	5
A. Fertility Trends, 1950-1991	5
B. Proximate Determinants of Fertility in China	11
a. Marriage	13
b. Level and Efficiency of Contraception	20
c. Abortion	25
d. Breastfeeding	29
C. Mortality and Health	29
D. Migration	33
III. China's Family Planning Goals and Policies	35

IV. China's Family Planning Budget	37
A. Aggregate Family Planning Operational Budget	37
B. Provincial Per Capita Operational Budget Expenditures	39
C. Complexity of China's Family Planning Financial Accounting	47
D. Components of the PRC Family Planning Operational Budget	54
V. Estimated Spending on Family Planning in China	57
A. Public and Private Provision of Services	63
B. Family Planning Personnel and Facilities	66
a. Family Planning Cadres and Workers	66
b. Density of Family Planning Delivery	68
c. Remuneration for Family Planning Workers and Staff	76
C. Contraceptive Supplies	81
D. Costs and Provision of Birth Control Surgery	86
E. Bonus for One-child Certificate and One-child Health Care	90
F. Penalties for Unauthorized Children	97
G. Utilization of Fines for Births Outside the Plan	100
H. Expenses for IEC	101
I. Expenditures on Family Planning Scientific Research Projects	104
J. Expenses for Equipment, Fixed Assets and Capital Construction	107
VI. Foreign Assistance for Family Planning	108

VII. Overview of Interventions and Their Effectiveness	111
A. Ideal Family Size	111
B. Current Limits to Fertility Reduction in China	113
VIII. Future Prospects	116
A. Future Fertility	116
B. Future Population Size and Growth	117
C. Future Shifts in Age Composition	118
D. Urbanization and Its Implications	119
E. Implications of China's Fertility Level	121
V. Conclusions	123

APPENDICES

Appendix A: Family Planning Expenditures in China's National Budget	131
Appendix B: Organizations and Personnel Involved in the Family Planning Program	135
Appendix C: Text of 1983 Regulation on Family Planning Operating Funds	141
Appendix D: China, Maternal and Child Health Network	147
Appendix E: Operational Expenditures for Contraceptive Supplies and Devices: Components and Bases for Expenditure Calculation	155
Appendix F: Utilization of Fines for Births Outside the Plan	159
Appendix G: Funds for Building and Equipping China's Family Planning Service Stations	161
Bibliography	165

TEXT TABLES

Table 1: China, Nationwide, Urban, and Rural Total Fertility Rates, 1950-1990, As Reported	7
Table 2: Marital Status of China's 1988 Population	14
Table 3: China, Women's Mean Age at First Marriage, 1950-1981	17
Table 4: Contraceptive Mix in China, 1982-1988	22
Table 5: Reported Birth Control Operations in China, 1971-1990	24
Table 6: China, Abortion rates, 1971-1989	26
Table 7: China, Reported Causes of Pregnancies that Ended in Abortion, 1979-1982	28
Table 8: China, Family Planning Operational Expenses, 1978-1990	38
Table 9: China, Family Planning Expenditures Per Capita, 1988 and 1989	40
Table 10: China, Reported and Planned Per Capita Family Planning Expenditures by Various Provinces	45
Table 11: Costs of Family Planning in Shanghai County, 1979-1983	49
Table 12: China Estimated Family Planning Expenditures, 1985, 1987, and 1989	58
Table 13: Estimated Wages for Full-time Family Planning Employees in China, 1985 and 1987	74
Table 14: Total Full-time Family Planning Cadres and Estimated Annual Wages	75
Table 15: Basic Situation of Contraceptive Supplies and Devices Control Stations in China	84
Table 16: Well-Equipped County Level Family Planning Service Stations in China, 1989	87
Table 17: China, Estimated Expenditures for Birth Control Measures, 1980-1989	91

Table 18: One-child Incentive Program: Monthly Payment and One-time Bonus	92
Table 19: China, Foreign Aid in the Population Field	109

FIGURES

Figure 1: China Nationwide, Urban and Rural Total Fertility Rates, 1950-1990, As Reported	8
Figure 2: China, Pattern of Childbearing	12
Figure 3: China, Mean Age at First Marriage for Women, 1950-1981	18
Figure 4: China, Provincial Fertility Level and Per Capita Family Planning Operational Expenditures, 30 Provinces	42
Figure 5: China, Provincial Fertility Level and Per Capita Family Planning Operational Expenditures, 29 Provinces	43
Figure 6: Organization of the National Family Planning Program (Central Level)	51
Figure 7: Organization of the National Family Planning Program (Provincial and Local Level)	52

MAPS

Map 1. People's Republic of China	i
Map 2. China, Reported Crude Birth Rates by Province, 1990 Census	6
Map 3. China, Reported Annual Per Capita Family Planning Operational Expenditures by Province, 1989	44

APPENDIX TABLES

Table D.1: China, Maternal and Child Health Expenditures by Province, 1987	148
Table D.2: China, Rural Part-time Public Health Personnel, 1965-1989	150
Table D.3: Public Health Organizations at the Village Level in the Rural Areas in China, 1985-1989	153

I. Introduction

The People's Republic of China (PRC) is the world's most populous country. This country alone has 27 percent of the total population of developing countries and 37 percent of the Asian population.² So China looms large in any assessment of trends and prospects for the population of Asia. The PRC is seen as a success story because it has achieved unusually low fertility for a low-income country, partly through its family planning program. This study catalogs the inputs to China's family planning program and the outcomes, to the extent that this is possible given limits on data availability. Then it assesses the extent to which China's family planning policies and programs are relevant to other developing countries.

A. Required Family Planning

The family planning program of the PRC is unique in one important way which weakens the relevance of the China model for other low-income countries faced with rapidly growing populations. At the moment, so far as is known, the PRC is the only country where the government attempts to control, for each woman and couple, the age of marriage, timing of pregnancy, type of birth control method, number of years between births, and total number of

²Based on assessments of each country's population size in 1993, conducted at the Center for International Research, U.S. Bureau of the Census.

births.³ These limitations are not completely enforceable everywhere in China, but they are surprisingly effective, in part because the PRC has a highly organized political system that affects people's daily lives on a routine basis and regularly monitors women's birth control use and menstrual cycles.

The Chinese government does indeed try to increase genuine demand for family planning services through its publicity and educational work, and by providing easy access to birth control devices and operations. But in addition, the government mandates the use of the birth control techniques provided. The family planning program in China has the following important components:

- strong political commitment
- convenient availability of supply points
- a range of available contraceptive technology
- government reimbursements to providers
- free birth control techniques for users
- strong reinforcing social institutions
- powerful incentives and penalties

³For details see Banister, 1987, 147-226; Hardee-Cleaveland and Banister, 1988; Aird, 1990.

B. Determinants of Fertility in China

Many scholars have tried to determine what proportion of China's fertility decline has been caused by the family planning program, and what portion by socioeconomic development. They use statistical techniques that have proved useful for this assessment in other countries. They show that provinces, subprovincial areas, or individual couples with lower fertility usually have more developed socioeconomic characteristics (higher education, more urbanized, higher income, lower mortality, better quality of life, more industrialized), while those places or couples with higher fertility tend to have more backward socioeconomic characteristics. Some analysts then attribute most of the differentials in fertility to socioeconomic development differentials, and finally imply that the family planning program is not that important in causing China's fertility decline.

Such analyses ignore the fact that China's family planning program is more controlling or "stronger" in urban areas than rural, in advanced areas than poor areas, and that the family planning program more strongly affects educated people with higher incomes, who have more to lose from the penalties than do poor peasants. Besides, the explicit family planning policies require advanced areas and couples to stop at one child, but allow backward areas and rural or minority couples two or three children. Therefore, the differentials in fertility are caused in part by big differences in how the family planning program is implemented.⁴ In the PRC, socioeconomic variables are highly associated with family planning variables. The

⁴For further detail, see Peng, 1989.

multicollinearity problem is so severe that one cannot separate out the causes. The better analyses have therefore concluded that in China, socioeconomic development and the family planning program have been mutually reinforcing in bringing about fertility decline.⁵

Analyses that focus on explaining the differentials in fertility among provinces or localities usually ignore the important fact that fertility almost everywhere in China, no matter how poor and backward, has declined during the last decade or two. The total fertility rate (TFR) has dropped from around 6 births per woman to 4 or below, just about everywhere.⁶ In advanced areas, this early phase of the fertility decline happened or may have happened spontaneously, without much effect from the family planning program.⁷ In backward areas, this fertility decline was very likely caused by the family planning program. In China, what the analyst needs to explain is not only the remaining differentials in fertility, which are significant from region to region, but also the remarkable convergence of fertility across the whole socioeconomic spectrum. For example, one study showed that in several provinces, fertility differentials in the early 1970s that were related to differences in education and literacy had largely disappeared by the end of the decade under the impact of China's family planning program.⁸

⁵See, for example, Poston and Gu, 1987.

⁶The major exception is Tibet, where the Tibetan minority constitutes 95 percent of the civilian population, family planning has only recently been introduced, and the TFR is still reported to be 4.8 births per woman. China 1990 Census, 1991, 4, 17; Zhaxilangjie and Zang, 1991, 6.

⁷Lavelly and Freedman, 1990.

⁸Freedman et al., 1988.

In conclusion, while it is hard to measure, there is little doubt that China's family planning program has been very effective in lowering fertility. Socioeconomic development has certainly played a part in bringing about China's fertility decline. For instance, many millions of families have probably chosen to have fewer children in response to the sharp drop in infant and child mortality, the improved societal position of women, increased education and literacy, industrialization, and urbanization. China's lowest birth rates are found in the more urbanized and developed provinces of the northeast, north, and eastern areas along the coast (Map 2). Higher birth rates are seen in the less developed, mostly inland provinces, and the highest birth rates are in minority group and economically backward provinces. But the role of the family planning program in initiating fertility decline and sustaining low fertility should not be underestimated.

II. Population Trends and Dynamics

A. Fertility Trends, 1950-1991

The PRC has experienced a profound fertility transition during the last several decades. As shown in Table 1 and Figure 1, women had over 6 births apiece on average during the middle years of the 1950s. The fertility of the urban nonagricultural population was also high, but was already below that of rural women.

Map 2: China, Reported Crude Birth Rates by Province, 1990 Census

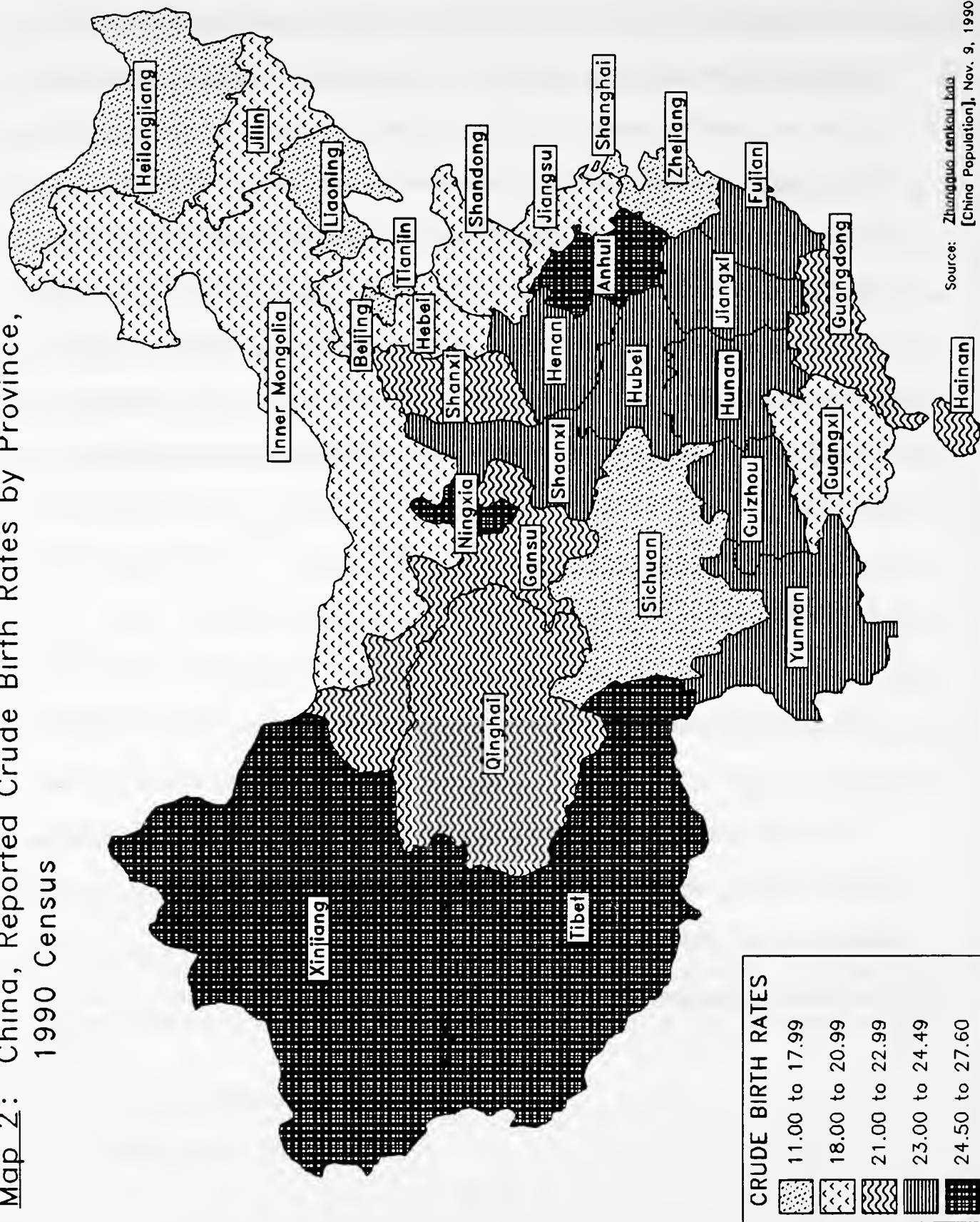


Table 1: China, Nationwide, Urban, and Rural
Total Fertility Rates, 1950-1991,
As Reported

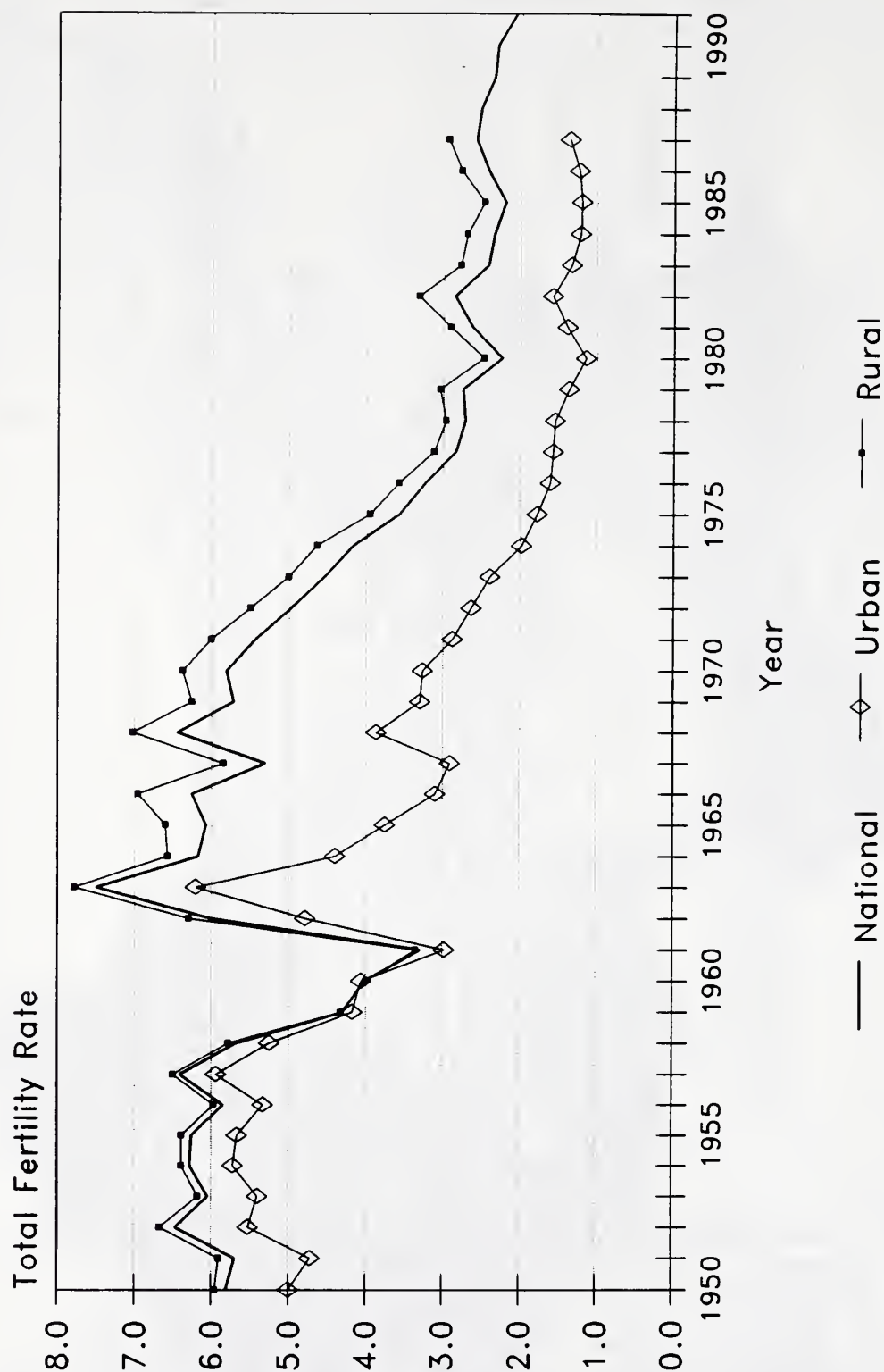
Year	National	Urban	Rural
1950	5.81	5.00	5.96
1951	5.70	4.72	5.90
1952	6.47	5.52	6.67
1953	6.05	5.40	6.18
1954	6.28	5.72	6.39
1955	6.26	5.67	6.39
1956	5.85	5.33	5.97
1957	6.41	5.94	6.50
1958	5.68	5.25	5.78
1959	4.30	4.17	4.32
1960	4.02	4.06	4.00
1961	3.29	2.98	3.35
1962	6.02	4.79	6.30
1963	7.50	6.21	7.78
1964	6.18	4.40	6.57
1965	6.08	3.75	6.60
1966	6.26	3.10	6.96
1967	5.31	2.91	5.85
1968	6.45	3.87	7.03
1969	5.72	3.30	6.26
1970	5.81	3.27	6.38
1971	5.44	2.88	6.01
1972	4.98	2.64	5.50
1973	4.54	2.39	5.01
1974	4.17	1.98	4.64
1975	3.57	1.78	3.95
1976	3.24	1.61	3.58
1977	2.84	1.57	3.12
1978	2.72	1.55	2.97
1979	2.75	1.37	3.05
1980	2.24	1.15	2.48
1981	2.63	1.39	2.91
1982	2.86	1.58	3.32
1983	2.42	1.34	2.78
1984	2.35	1.22	2.70
1985	2.20	1.21	2.48
1986	2.42	1.24	2.77
1987	2.58	1.36	2.94
1988	2.52	--	--
1989	2.35	--	--
1990	2.31	--	--
1991	2.07	--	--

-- Not available.

Notes: Data for 1950-1981 are from China's 1982 one-per-thousand-population fertility survey. Data for 1982-1987 are from China's 1988 two-per-thousand-population fertility survey. Data for 1988-1990 were estimated by Zhao Xuan from China's 1990 census and 1990 annual survey of population change. Figures for 1988-1991 were reported by the State Family Planning Commission.

Sources: China 1982 Fertility Survey, 1984, 159-173; China Family Planning Yearbook, 1990, 195; Zhao, 1991, Table 1; China Population Today, 1992, 8.

Figure 1: China Nationwide, Urban and Rural
Total Fertility Rates, 1950-1991,
As Reported



Source: Table 1.

During the famine of China's Great Leap Forward which began in 1958, the total fertility rates of urban and rural women dropped approximately in half due to starvation-induced subfecundity. As soon as food supplies were restored to barely adequate levels, the fertility level rose in 1962 and reached an unprecedented peak of compensatory childbearing in 1963.

During the 1960s, China's fledgling family planning program reached the urban population.⁹ Pressure began to be placed on urban couples to sharply limit their number of births. Barrier methods of contraception and intrauterine devices were produced and provided. Urban fertility had declined steeply by the mid-1960s. After a slight reversal during the Cultural Revolution of the late 1960s, the urban total fertility rate continued its downward trend under tight fertility restrictions, falling below three births per woman in the early 1970s. Urban fertility in China dropped below replacement level in 1974, and under the impact of the one-child limit launched in 1979, urban women have had a total fertility rate (TFR) of only 1.1-1.6 births every year since (Table 1 and Figure 1).

Rural fertility was very high in China during the 1960s. But in the early 1970s, one province after another, prodded by the central government, implemented a campaign of "later, longer, fewer," requiring couples to marry at older ages, wait longer between births, and stop childbearing at a smaller completed family size than in the past. The campaign was carried out at the local level under the guidance of the pervasive political and economic structure that

⁹Aird, 1972; Banister, 1987, 147-152.

reached effectively into most villages. It was very successful. Rural fertility dropped from 6.4 births per woman in 1970 to about 3.0 in 1978.

During the 1980s, the rural fertility level fluctuated between 2.5 and 3.3 births per woman, according to the data in Table 1. China's rural population has resisted the one-child policy, and the authorities have responded by showing some flexibility in enforcement.

Major fertility trends in the 1980s and early 1990s were a decline in China's total fertility rate to 1985, then a rise peaking in 1987, and an apparent decline in fertility since then. The gap between urban and rural fertility is still wide.

During the 1970s, as China's population shifted from an almost noncontracepting population to one with highly controlled fertility, the pattern of childbearing by age of women shifted too. In the years through 1970, women began bearing children in their late teens, and in the ages 23-25, one-third of the women at each age each year had a baby. Fertility continued high for women in their late twenties, thirties, and early forties, in what is called a "broad peak" fertility pattern. But by the early 1980s, births were highly concentrated in the early and mid-twenties, and childbearing ceased for most women by the early thirties. China's "narrow peak" fertility pattern of today is typical of East Asian populations at low levels of fertility. Births to Japanese women are similarly concentrated, though peaking at older ages than in China.

As shown in Figure 2, by 1979 births were infrequent to women in their teens and the peak fertility level was at ages 25 and 26. But during the next three years, there was a strong shift of childbearing to younger ages of women. The age-specific fertility of women in their early twenties rose, and fertility peaked at ages 24 and 25, but cessation of childbearing also happened at younger ages than before. The trend continued, and by 1987 childbearing started slightly younger than in 1982 and peaked at age 23, with fertility dropping off rapidly in the late twenties. This extreme concentration in the age-specific fertility pattern means that the number of women in their twenties has great effect on the crude birth rate. If China's age structure happens to have a dearth of women in their twenties, the birth rate will tend to be lower, but if there is a bulge in the age structure, this will put upward pressure on the birth rate.

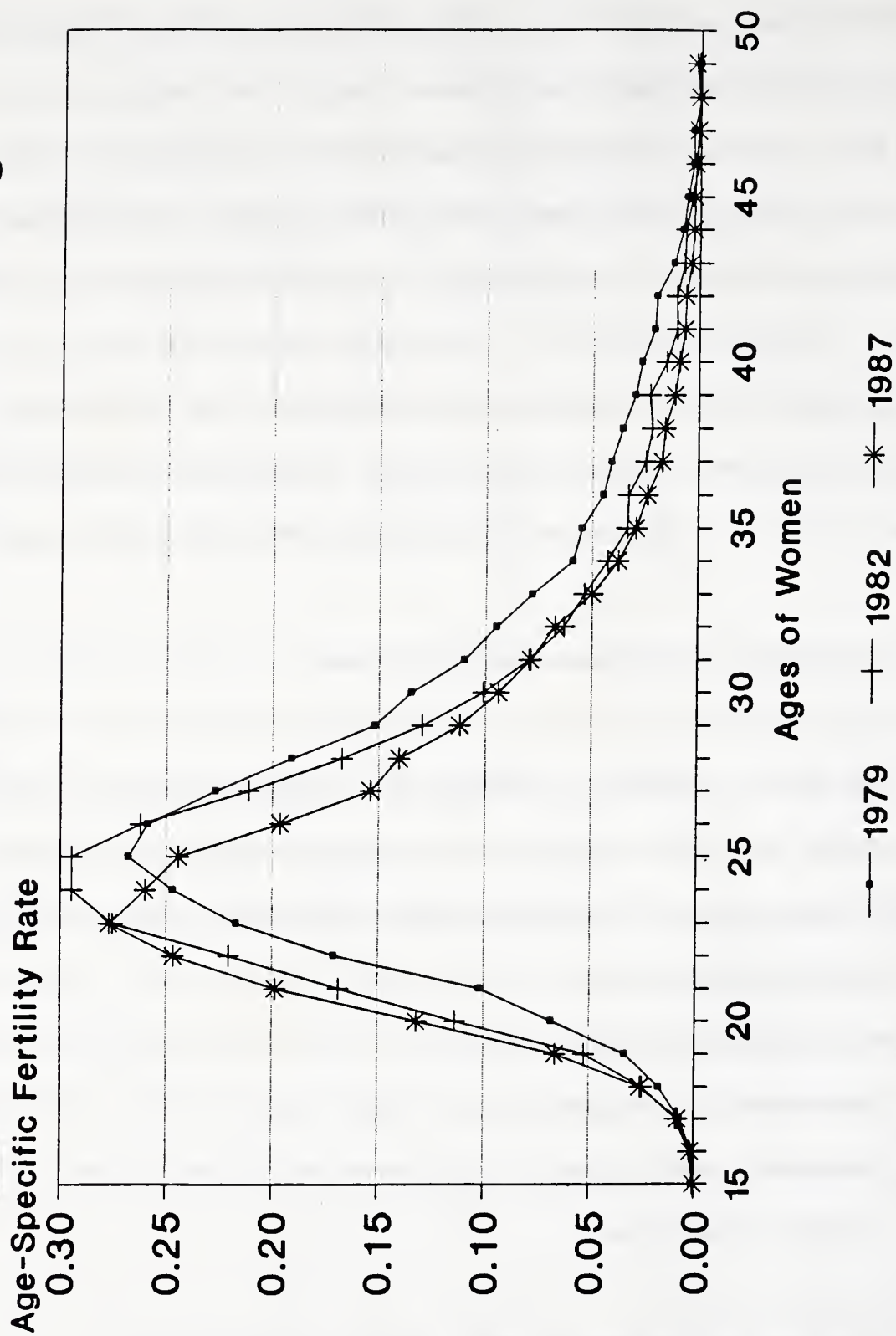
B. Proximate Determinants of Fertility in China

The "proximate determinants of fertility" are the intermediate behavioral and biological factors through which social, economic, and environmental variables affect fertility.¹⁰ In this report we will concentrate on the following proximate determinants of fertility in China:

- proportion who ever marry
- marital disruption and remarriage
- mean age at first marriage for women
- prevalence of contraception
- methods of contraception

¹⁰For discussion see Bongaarts and Potter, 1983, ix, 1-20, 24-28, 52-77.

Figure 2: China, Pattern of Childbearing



Note: Based on reported, unadjusted fertility survey data.

Source: China 1982 Fertility Survey, 1984, 161; China 1988 Fertility Survey, 1990, 183, 193.

- use-effectiveness of the leading contraceptive techniques
- incidence of induced abortion
- frequency and duration of breastfeeding

a. Marriage

Historically, China had a typical Asian pattern of early and universal marriage.¹¹ According to data from the 1988 fertility survey, it is still true that almost everyone eventually marries, as shown in Table 2. Women enter rapidly into marriage, starting before age 18. At age 21, almost half have already married, and at 25, 92 percent of women have married. By their early thirties, 99 percent of women have married. Men marry a year or two older than women on average. Eventual marriage for men is about as universal as possible, given the comparative dearth of women in China because of historical female infanticide, selective neglect of girls, and high maternal mortality in the past.¹² (China's censuses counted 107.6 males per hundred females in 1953 and 106.6 in 1990.) Divorce is infrequent. Small proportions of people are widowed while still in fecund childbearing ages. Remarriage is common for those divorced or widowed in young adulthood or middle age. Therefore, a very high proportion of China's adult population in their twenties, thirties, and early forties is married and "at risk" for childbearing.

¹¹Barclay et al., 1976, 609.

¹²Banister, 1984.

Table 2. Marital Status of China's 1988 Population

Age	Percent never married		Percent ever married		Percent in first marriage		Percent remarried		Percent divorced		Percent widowed	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
18	98.3	94.0	1.7	6.0	1.7	5.9	.0	.0	.0	.1	.0	.0
19	94.8	86.0	5.2	14.0	5.1	13.8	.0	.1	.0	.1	.0	.0
20	89.1	71.0	10.9	29.0	10.7	28.6	.1	.2	.1	.1	.0	.0
21	77.5	52.7	22.5	47.3	22.2	46.9	.1	.3	.1	.1	.1	.0
22	61.6	38.0	38.4	62.0	38.1	61.4	.1	.4	.1	.2	.0	.0
23	46.6	23.6	53.4	76.4	52.8	75.6	.2	.6	.3	.2	.1	.1
24	34.2	13.7	65.8	86.3	65.1	85.3	.3	.7	.3	.2	.1	.1
25	24.3	8.3	75.7	91.7	74.7	90.5	.5	.9	.4	.3	.2	.1
26	19.3	5.2	80.7	94.8	79.5	93.4	.5	1.0	.5	.3	.2	.2
27	15.8	3.7	84.2	96.3	82.9	94.4	.6	1.4	.5	.3	.2	.2
28	12.4	2.2	87.6	97.8	86.0	95.7	.8	1.6	.6	.4	.1	.1
29	10.2	1.4	89.8	98.6	87.8	96.3	.9	1.9	.8	.3	.3	.1
15-19	98.4	95.3	1.6	4.7	1.5	4.6	.0	.0	.0	.0	.0	.0
20-24	61.0	39.4	39.0	60.6	38.6	60.0	.2	.5	.2	.2	.1	.0
25-29	17.7	4.9	82.3	95.1	81.0	93.4	.6	1.3	.5	.3	.2	.1
30-34	7.3	.6	92.7	99.4	90.1	96.3	1.3	2.3	.8	.3	.5	.4
35-39	5.7	.3	94.3	99.7	90.3	95.1	2.2	3.5	.9	.3	1.0	.8
40-44	5.2	.2	94.8	99.8	88.9	92.5	3.1	4.7	1.1	.3	1.8	2.3
45-49	4.6	.2	95.4	99.8	86.8	88.6	4.5	6.1	1.2	.3	2.9	4.9
50-54	4.0	.2	96.0	99.8	82.8	82.4	6.5	7.9	1.4	.3	5.3	9.2
55-59	3.1	.2	96.9	99.8	79.1	72.8	8.3	9.2	1.4	.4	8.1	17.4
60-64	2.7	.3	97.3	99.7	73.3	60.5	9.6	9.5	1.4	.3	13.1	29.4
65-69	2.5	.3	97.5	99.7	65.4	46.2	10.3	8.5	1.3	.4	20.6	44.6
70-74	2.3	.4	97.7	99.6	56.1	33.5	10.6	6.3	1.0	.4	29.9	59.4
75+	2.5	.5	97.5	99.5	41.7	18.1	9.9	3.4	.8	.3	45.1	77.7

Source: China 1988 Fertility Survey, 1990, 16-21.

In China, it is not only customary for everyone to marry, but also customary for every couple to have one or more children. For example, data from China's 1988 fertility survey showed that, of Chinese women who married from the early 1940s through 1986, 97.4 percent had borne at least one child by midyear 1988.¹³ Primary infertility is extremely low in China, and couples rarely choose to be childless.

In the PRC, the universality of marriage and the ubiquity of childbearing within marriage tend to bring about higher fertility than in countries where many never marry and many more never bear any children. At the same time, universal marriage and universal childbearing have important positive effects on individual and family welfare that should not be overlooked. For example, very low fertility in Western countries is caused by many never marrying and many marrying but not having children; a result is that a large proportion of the elderly adult population has no spouse and/or no children. Family financial and emotional support for the elderly is impossible if there is no family. In China, however, very low fertility still leaves almost every aged man or woman with at least one surviving son or daughter or daughter-in-law, particularly now and in the future with mortality so low. Because of these Chinese cultural characteristics, the future aging of the population in combination with continuing low fertility may not cause as acute a crisis as we might otherwise predict.

¹³China 1988 Fertility Survey, 1990, 197-198. But some women may have reported adopted children as their own, if they themselves were childless. This would cause an underestimate of primary infertility.

In a system with universal marriage and very little childbearing outside of marriage, mean age at first marriage for women is an important predictor of length of generation. Changes in the age at first marriage also have strong effects on the birth rate. In China there was a slow increase in the mean age at first marriage for women from age 18.7 in 1950 to age 20.2 in 1970, then a sharp increase in mean first marriage age to 23.1 years in 1979 under the government's strong late marriage requirements of the 1970s (Table 3 and Figure 3). As marriage age rose in the 1970s, this helped to depress the birth rate each year. From 1970 to 1979, average age at first marriage for rural women rose from 19.9 to 22.6--an increase of 2.7 years--and for urban women from 22.3 to 25.5 years--rising 3.2 years.

In response to a reaction against required late marriage, and for various demographic and social reasons, China's government revised the marriage law in 1980, lowering the regulated minimum marriage age to 20 for females and 22 for males.¹⁴ Female mean age at first marriage quickly dropped 1.3 years by 1984; this phenomenon occurred in both urban and rural areas. Birth rates rose because of the bunching of first and then second births to young people of several different cohorts marrying at the same time. Total fertility rates also rose at the beginning of the 1980s and again after the middle of the decade; part of these apparent increases in fertility is attributable to the drop in marriage age and surge of marriages.¹⁵ The government responded by trying to reinstitute some restrictions on early marriage. Mean age

¹⁴Details in Banister, 1987, 152-165.

¹⁵Coale et al., 1991.

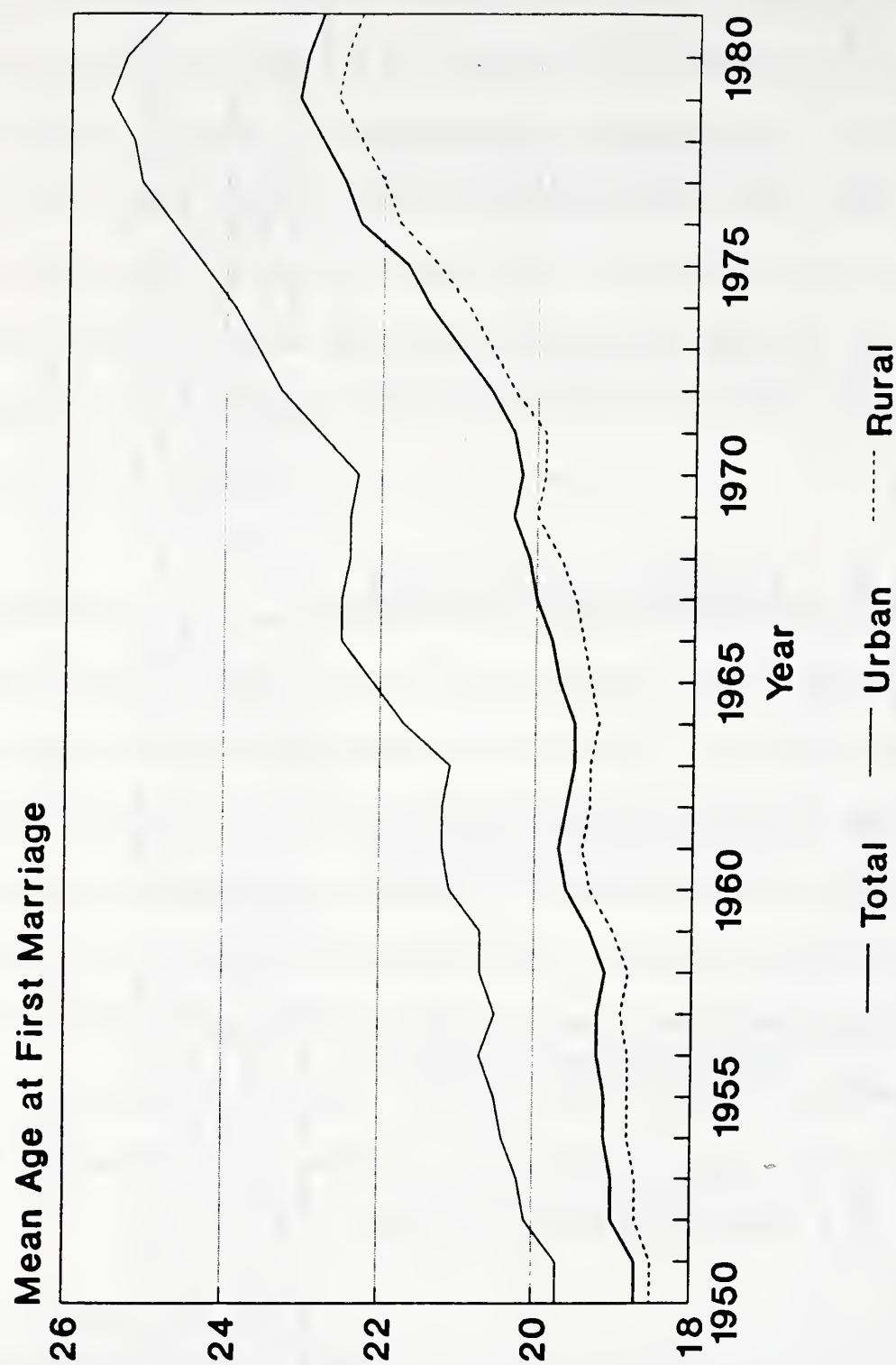
Table 3. China, Women's Mean Age at First Marriage, 1950-1981

Year	Urban	Rural	National	Year	Urban	Rural	National
1950	19.7	18.5	18.7	1966	22.5	19.4	19.8
1951	19.7	18.5	18.7	1967	22.5	19.5	20.0
1952	20.1	18.7	19.0	1968	22.4	19.7	20.1
1953	20.2	18.7	19.0	1969	22.4	20.0	20.3
1954	20.4	18.8	19.1	1970	22.3	19.9	20.2
1955	20.5	18.8	19.1	1971	22.8	19.9	20.3
1956	20.7	18.8	19.2	1972	23.3	20.3	20.6
1957	20.5	18.9	19.2	1973	23.6	20.6	21.0
1958	20.7	18.8	19.1	1974	23.9	20.9	21.4
1959	20.7	19.0	19.3	1975	24.3	21.3	21.7
1960	21.1	19.3	19.6	1976	24.7	21.8	22.3
1961	21.2	19.4	19.7	1977	25.1	22.0	22.5
1962	21.2	19.3	19.6	1978	25.2	22.3	22.8
1963	21.1	19.3	19.5	1979	25.5	22.6	23.1
1964	21.7	19.2	19.5	1980	25.3	22.5	23.0
1965	22.1	19.3	19.7	1981	24.8	22.3	22.8

Notes: Based on annual first marriage rate data by single years of age from China's nationwide 1982 retrospective fertility survey applied to the annual reconstructed single-year age structure of women. The calculation assumes that marriages to women at each age are distributed evenly throughout the year of age, so that the average age at marriage for women who marry at age 19 before they reach age 20 is age 19.5. "Urban" is defined as the nonagricultural permanent resident population of cities and towns; "rural" covers all the rest of the population.

Sources: Banister, 1987, 156; China 1982 Fertility Survey, 1984, 174-182.

Figure 3. China, Mean Age at First Marriage for Women,
1950-1981



Source: Table 3.

at first marriage for women rose by 0.3 years from 1984 to 1988. This increase was more a rural than city phenomenon.¹⁶

The government has had some success raising the age at marriage, but the rural and urban populations strongly resist much of an increase as the social, cultural, and economic system favors marriage in the early twenties. If couples are forbidden to register their marriage until they reach certain ages, they may simply have a traditional ceremony, live together, and even begin bearing children, ignoring the marriage registration requirement.

Will mean age at marriage in China increase in the future? In many other Asian countries, mean age at first marriage for women has risen, without compulsion, to age 24 or 25. Perhaps, as China's economy develops and urbanization proceeds, people in China will choose to marry later than is now the case. In the short run, it is safer to assume that marriage for women will continue to concentrate early in their twenties. Newly available information indicates that the average age at first marriage for women increased from age 21.8 years in 1987 to age 22.5 in 1992.¹⁷ This trend has once again depressed the birth rate and total fertility rate.

¹⁶Figures and generalizations in this paragraph are from Li Jingneng and Guo Yang, 1991, Table 1, and from Zha Ruichuan and Liu Jintang, 1991, Table 6, based on 1988 fertility survey data.

¹⁷Peng Peiyun, 1993, 1.

b. Level and Efficiency of Contraception

Those practicing contraception constitute a very high proportion of married women of reproductive age (defined as ages 15-49) in China. As of 1982, according to the nationwide fertility survey of that year, 69.5 percent of all married women in the childbearing ages were using birth control techniques to prevent conception.¹⁸ As shown in Table 4, a very high proportion of those contracepting were already using modern effective forms of birth control. Half the couples practicing family planning were using intrauterine devices (IUDs), another 35 percent had one partner sterilized, and an additional 8 percent were using the birth control pill. Only 6 percent of users depended on less effective methods such as condoms, diaphragms, spermicides, rhythm method, withdrawal, or folk remedies.

The PRC family planning program relies very heavily on passive methods of birth control.¹⁹ For a couple to successfully prevent conception using the pill, or barrier methods, or withdrawal, or rhythm, at least one of the partners must be motivated to avoid pregnancy. But in China, high proportions of couples are required by the government to postpone the next birth longer than they wish or cease childbearing before they have their desired number of children. Therefore, the Chinese family planning program puts great emphasis on sterilization and intrauterine devices. Once a person is sterilized, that individual and his or her spouse will no longer have unauthorized conceptions or births. Once an IUD has been inserted into the

¹⁸Qiu et al., 1984, 140.

¹⁹Discussed in Lavelly, 1989, 68; and United Nations ESCAP, 1991.

Table 4. Contraceptive Mix in China, 1982-1991

Date	All methods	IUD	Tubal ligation	Vasectomy	Oral pill	Condom	Other
Sept. 1982							
Million couples using	118.0	59.2	30.0	11.8	9.7	2.4	5.0
Percent of users	100.0	50.2	25.4	10.0	8.2	2.0	4.2
Yearend 1983							
Million couples using	124.0	50.8	46.4	16.0	6.3	2.6	1.9
Percent of users	100.0	41.0	37.4	12.9	5.1	2.1	1.5
1984							
Million couples using	130.0	51.9	49.5	16.4	6.9	3.2	2.2
Percent of users	100.0	39.9	38.1	12.6	5.3	2.4	1.1
July 1988							
Million couples using	147.0	61.0	56.2	16.2	7.2	3.9	2.6
Percent of users	100.0	41.48	38.23	10.99	4.91	2.65	1.74
1991							
Million couples using	192.3	75.0	74.8	23.3	9.2	7.5	2.5
Percent of users	100.0	39.0	38.9	12.1	4.8	3.9	1.3

Sources: Judith Banister, China's Changing Population. Stanford, Calif.: Stanford University Press, 1987, p. 215. September 1982 data on the number of contraceptors and the percent using each method are from State Family Planning Commission. "Quanguo qianfenzhiyi renkou shengyulu chouyang diaocha gongbao" (Communique on the 0.1 Percent Sample Fertility Survey of China's Population), Renkou Yanjiu (Population Research) no. 3 (May 29, 1983), p. 15. Yearend 1983 figures for the total number of contraceptive couples and the percent using each technique were reported by Shen Guoxiang. "A Brief Introduction to China's Family Planning Programme," presented at the International Population Conference, Mexico City, August 1984, p. 6. Yearend 1984 data on the total number of contraceptive couples and the percent using each technique are from Feng Yan, "1983-nian yu 1984-nian de jihua shengyu tongji" (Family Planning Statistics of 1983 and 1984), Zhongguo weisheng nianjian, 1985 (The Public Health Yearbook of China, 1985), compiled by Zhongguo wiesheng nianjian Compiler Committee, Beijing: Renmin weisheng chubanshe, 1986, pp. 129-130. July 1988 data on the number of contraceptors and the percent using each method are from "The Nationwide Fertility and Birth Control Sampling Survey Ended Successfully," China Population March 17, 1989, p. 3. Data for 1991 are from "Population and Family Planning Statistics of China, 1988-1991," China Population Today, June 1992, p. 8.

uterus, especially a PRC-made IUD with no string attached, it is difficult for a woman to get it out and have an unauthorized pregnancy.

Required sterilization was made an explicit nationwide policy in late 1982 for most Han Chinese (not minority group) couples who had two or more living children.²⁰ The policy was carried out throughout most of China during 1983, resulting in 21 million sterilizations that year, up from 5 million in 1982, as shown in Table 5. By the end of the year, over half the couples in China with two or more living children had one partner sterilized.²¹ The policy caused a distinct shift in the contraceptive mix. Table 4 shows that by year-end 1983, sterilization made up half the contraceptive practice in the country. IUD use was down to 41 percent of users. As of the end of 1983, reliance on these passive birth control techniques had risen; couples using tubal ligation, vasectomy, and the IUD constituted 91 percent of all contraceptive use, up from 86 percent a year earlier. There has been hardly any change in the level and pattern of contraceptive use in China as a whole since yearend 1983. According to the 1988 fertility survey, 71.2 percent of married women of reproductive age were practicing contraception in 1988, of whom 91 percent were using passive methods (Table 4).²²

²⁰Banister, 1986a, 142-157.

²¹According to the 1982 census, of women in China 15-49, 120.4 million had 2 or more living children. China 1982 Census, 1985, pp. 482-483. A very small proportion of these women were no longer married, so there were slightly fewer than 120.4 million married women with 2 or more living children. By the end of 1982, as shown in Table 4, 62.4 million couples had one partner sterilized. Because sterilization after only one or no child is very infrequent in China, we assume that all couples with one partner sterilized had 2 or more living children. Therefore, by the end of 1983, about 52 percent of couples with 2 or more living children had one partner sterilized.

²²Li Honggui, 1991, 10.

Table 5. Reported Birth Control Operations in China, 1971-1991

Year	IUD insertions	IUD removals	Vasectomies	Tubal ligations	Abortions
Total	267,114,296	42,984,631	37,537,746	91,931,430	167,811,538
1971	6,172,889	...	1,223,480	1,744,644	3,910,110
1972	9,220,297	853,625	1,715,822	2,087,160	4,813,542
1973	13,949,569	1,126,756	1,933,210	2,955,617	5,110,405
1974	12,579,886	1,352,787	1,445,251	2,275,741	4,984,564
1975	16,743,693	1,702,213	2,652,653	3,280,042	5,084,260
1976	11,626,510	1,812,590	1,495,540	2,707,849	4,742,946
1977	12,974,313	1,941,880	2,616,876	2,776,448	5,229,569
1978	10,962,517	2,087,420	767,542	2,511,413	5,391,204
1979	13,472,392	2,288,670	1,673,947	5,289,518	7,856,587
1980	11,491,871	2,403,408	1,363,508	3,842,006	9,527,644
1981	10,344,537	1,513,376	649,476	1,555,971	8,696,945
1982	14,069,161	2,056,671	1,230,967	3,925,927	12,419,663
1983	17,755,736	5,323,354	4,356,261	16,398,378	14,371,843
1984	11,751,146	4,383,129	1,293,286	5,417,163	8,890,140
1985	9,576,980	2,278,892	575,564	2,283,971	10,931,565
1986	10,637,909	2,313,157	1,030,827	2,914,900	11,578,713
1987	13,337,217	2,383,790	1,733,229	3,846,093	10,394,531
1988	12,227,219	2,264,969	1,062,161	3,590,469	12,675,836
1989	15,521,437	2,270,804	2,427,243	6,277,802	10,566,911
1990	15,879,017	2,627,140	3,090,903	6,930,318	10,634,560
1991	16,820,000	--	3,200,000	9,320,000	--

Note: These figures are reproduced in full detail because the original sources are not widely available.

Sources: PRC Ministry of Public Health, Chinese Health Statistical Digest 1988, Beijing, 75; China Family Planning Yearbook 1990, 402; 1991, 502; PRC State Family Planning Commission, China Population Today, June 1992, 8.

In general, the birth control methods used in China are modern and highly effective. A successfully performed sterilization is essentially 100 percent effective in preventing conception or fertilization by the woman or man sterilized. Given the low incidence of divorce and widowhood in the childbearing years, this translates into effective prevention of further childbearing by the couple or either member of the couple.

During the 1970s, IUDs used in China were all made in China (mostly without international assistance) and were of mediocre quality. There were frequent problems with excessive bleeding, expulsion, and pregnancies with the IUD in place. During the 1980s, the United Nations Population Fund gave China "turnkey" factories that produce high quality copper IUDs. During 1989, Chinese IUD factories produced 42 million IUDs, of which over 8 million (20 percent) were of the high quality copper type.²³

Use-effectiveness of IUDs in China is low compared to international standards, United States experience, or even in comparison to the Philippines.²⁴ We do not know what proportion of the IUDs inserted each year are the high-quality copper variety. If we assume that the entire 8 million copper IUDs produced in 1989 were used in the family planning program the same year, then almost half of the IUDs inserted that year would still have been those of poorer quality with high failure rates. One Chinese source says that China's steel single ring IUD, still commonly used in China today, has the highest failure rate among all types of IUDs, but it is inexpensive, and hence remains in widespread use.²⁵

²³China Family Planning Yearbook 1990, 120.

²⁴Details in this paragraph from Wang, Weng, and Zhang, 1991.

²⁵Ibid.

Chinese birth control pills are reported to be of high quality by international standards and have a low estrogen dose suitable to oriental (and other) women. Some other devices, such as condoms, have improved in quality over time because of international assistance providing factories for contraceptive production.²⁶

Contraceptive effectiveness in China is enhanced by the easy availability and free provision of birth control techniques to married couples. If one method is not suitable for a particular couple or causes unpleasant side effects, Chinese authorities are happy to supply an alternative technique free of charge.

c. Abortion

As shown in Table 5, during the 1970s through 1978, there were about 5 million induced abortions per year in China. The number jumped to 8 million in 1979 with the introduction of the one-child policy. Annual abortions increased greatly in the early 1980s, peaking at 14 million in 1983 with an explicit nationwide policy to abort all unauthorized pregnancies. Since then, abortion has continued to be a strong element of the family planning program, and the number of reported induced abortions has fluctuated between 9 million and 13 million per year. The number of abortions per thousand live births in China increased during the 1970s to 271 in 1978, jumped to 378 with required abortions in 1979, and to 550 in 1980 (Table 6). The peak was in 1983, with 725 abortions performed per thousand live births, and since then the ratio has

²⁶For an overview of contraceptive quality in China, see Banister, 1987, 171-175.

Table 6. China, Abortion rates, 1971-1989

Year	Reported abortions	Estimated women at childbearing ages (15-49)	Reported fecund married women at childbearing ages	Estimated number of live births	Abortions per thousand women ages 15-49	Abortions per thousand fecund married women ages 15-49	Abortions per thousand live births	Percent of pregnancies aborted
1971	3,910,110	187,419,991		29,376,010	21		133	12
1972	4,813,542	193,132,869		28,017,808	25		172	15
1973	5,110,405	198,483,135		26,361,110	26		194	16
1974	4,984,564	201,702,235		25,306,168	25		197	16
1975	5,084,260	203,524,713		22,756,465	25		223	18
1976	4,742,946	205,184,610		21,502,102	23		221	18
1977	5,229,569	209,631,294		19,902,503	25		263	21
1978	5,391,204	218,092,400		19,875,290	25		271	21
1979	7,856,587	226,802,552		20,766,030	35		378	27
1980	9,527,644	234,272,295	122,914,000	17,334,732	41	78	550	35
1981	8,696,945	241,895,669	131,923,441	20,932,674	36	66	415	29
1982	12,419,663	248,939,199	139,794,842	23,766,069	50	89	523	34
1983	14,371,843	255,905,291	152,321,284	19,811,797	56	94	725	42
1984	8,890,140	264,656,399	154,368,233	21,363,979	34	58	416	29
1985	10,931,565	272,605,541	162,282,570	21,521,253	40	67	508	34
1986	11,578,713	280,795,411	170,405,814	24,432,577	41	68	474	32
1987	10,394,531	288,020,854	178,048,033	27,384,598	36	58	380	28
1988	12,675,836	295,219,794		24,927,421	43		509	34
1989	10,566,911	301,958,128	195,999,864	24,835,600	35	54	425	30
1990	10,634,560	308,048,997		24,037,716	35		442	31

Notes: The reported fecund married women of childbearing ages include only those targeted for family planning, and exclude those considered sterile, or whose husbands are away. The total number of married women ages 15-49 was estimated to be 170 million in 1982, 190 million in 1985, 200 million in 1987, 206 million in 1988, and 240 million in 1992.

Sources: Chinese Health Statistical Digest, 1988, 75; China Family Planning Yearbook, 1986, 378-428; 1987, 397; 1988, 287; 1990, 402; Peng Peiyun, 1993, 1. Estimated births and women in childbearing ages are from reconstructions done at the China Branch, Center for International Research, U.S. Bureau of the Census.

been 380-509 induced abortions per thousand births. In the 1980s, of those pregnancies that did not miscarry, about one-third ended in induced abortion.

Table 7 presents the reported causes of pregnancies that ended in abortion during the 1979-1982 period, based on China's nationwide fertility survey of 1982. More recent data have not yet been reported. In the early 1980s, almost half the abortions in China were performed on women who had used no contraceptive technique. Some of these women did not mean to get pregnant, and sought an abortion when the pregnancy occurred. Others, however, used no contraception because they wanted another child, and the abortion was then required by the authorities.

Slightly over half the pregnancies that ended in abortion were reported to be due to contraceptive failure. Each year, women who got pregnant with an IUD in place and then got an abortion made up 12 percent of the abortions performed. Another 21-23 percent of abortions were carried out on women who got pregnant because the IUD was no longer in place.

Other abortions followed failure of sterilization operations, poor use-effectiveness of the pill, failure of barrier methods, and failure of less modern methods. In China, if a pregnancy follows either contraceptive failure or non-use of contraception, and the pregnancy has not been approved by the authorities, abortion may be mandated. Therefore, although the Chinese people have achieved high contraceptive use rates with heavy use of modern methods, abortion rates have not declined. But they would almost certainly have been higher if modern contraceptive

Table 7. China, Reported Causes of Pregnancies that Ended in Abortion, 1979-1982
(percent)

Causes	1979	1980	1981	1982
Unsuccessful tubal ligation	1.22	1.02	.52	.67
Unsuccessful vasectomy	3.59	3.96	2.72	1.88
Pregnant with IUD in place	12.15	11.99	12.45	11.93
IUD no longer in place	21.34	23.47	21.78	20.90
Pill failure	7.83	9.05	11.65	10.35
Injection failure	.17	.12	.35	.50
Condom failure	1.74	1.58	2.43	2.02
Other barrier method failure	.21	.39	.52	.85
Failure of withdrawal	.14	.05	.17	.12
Failure of rhythm method	1.22	1.24	1.35	1.35
Failure of other measures	.70	.19	.43	.47
Used no contraception	49.69	46.94	45.64	48.97

Note: Data from China's 1982 Fertility Survey.

Source: Zhongguo funu tongji ziliao 1949-1989 (Statistics on Chinese Women 1949-1989). Beijing: China Statistical Publishing House, 1991, p. 438.

techniques were illegal or unavailable, as in many countries of the world. For example, abortion rates were much higher in the Soviet Union and countries of Eastern and Central Europe than in China.²⁷

d. Breastfeeding

Breastfeeding also affects fertility because it tends to suppress fecundity after childbirth, especially if the baby derives all of its nourishment from breast milk. In rural areas, breastfeeding is still the norm, but in urban areas bottle-feeding and mixed feeding are taking over. A survey in the mid-1980s found that of Chinese babies 4 months of age, 70 percent were exclusively breastfed in rural areas but only 43 percent in urban areas. By 6 months, the proportion of babies fed only breast milk was 60 percent in rural and 34 percent in urban areas. Mixed bottle and breastfeeding has less of a contraceptive effect on the mother; 20 percent of rural infants and 30 percent of urban infants received both bottle and breastfeeding.²⁸

C. Mortality and Health

China historically had very high mortality, even in places where warfare was not raging, and health conditions were poor.²⁹ During the 1950s, the new Communist government attacked

²⁷Henshaw and Morrow, 1990, 78.

²⁸UNICEF, 1989, 49.

²⁹Barclay et al., 1976.

most diseases and causes of death with vigor, bringing about a steep reduction of the death rate.³⁰ After a serious famine brought about by policy mistakes of the Great Leap Forward, that caused 30 million excess deaths in 1958-1961, the country resumed its health improvements and mortality reduction. By the early 1970s, the population had achieved a life expectancy of over 60 years. Mortality improvements have continued since then but have been slower. Life expectancy in 1990 was about 66 years for males and 68 years for females.³¹

Infant mortality in China reportedly declined for both sexes until about 1977, then leveled out at around 40 infant deaths per thousand live births, according to the fertility survey of 1988. Male infant mortality was reported to be slightly higher than female in most years.³² The lack of continued improvement in infant mortality may have been caused in part by aspects of the economic reforms that have been in effect since 1978. For example, dismantling of the rural collective structure and weakening of the welfare system might have affected maternal and child health care in ways that halted further reductions in infant mortality.

A disturbing recent trend has been a rise in the enumerated sex ratios of successive cohorts of children born since 1978 and throughout the 1980s. The 1987 one percent sample

³⁰Details in Banister, 1987, 51-120.

³¹Reconstructed and adjusted at the Center for International Research, U.S. Bureau of the Census, using data from the 1982 and 1990 censuses, the 1988 fertility survey, and other sources. Center for International Research (forthcoming). China's reported mortality data show higher life expectancies, but that is because deaths are not completely reported among infants or elderly people.

³²"China's infant mortality declines in past forty years," China Population Newsletter, June 1989, 11, 18.

census and the 1990 census both found that there were 110 boys per hundred girls ages 0-4. By the 1990 census, the sex ratios were 112 boys per hundred girls at infancy and age 1, 110 at age 2, 109 at age 3, 108 at ages 4 and 5, etc.³³ The problem may simply reflect underenumeration of girls, but this explanation is losing ground in light of the fact that the elevated sex ratios of particular cohorts have now been traced through several surveys and censuses.³⁴ It appears that most of the missing girls are not alive, which may suggest rising female infant mortality in the 1980s. In addition, about half of the missing girls appear to be accounted for by sex-selective abortion.³⁵

Compared to most developing countries, infant mortality in the PRC is low and has been for at least two decades. Data on the mortality of children above infancy in China are still weak, but we can discern important trends. Between the early 1970s and 1981, age-specific mortality of children above infancy, that is at ages 1-4 and 5-9, was approximately cut in half, and the death rate among those 10-14 also greatly improved.³⁶ There has been continuing dramatic improvement in child mortality above infancy in the 1980s.³⁷ One possible explanation for the extraordinary gains in child mortality that seem to have happened in the late

³³China 1987 Sample Census, 1988, 135; China 1990 Census 10 Percent Sample Tabulation, 1991, 93.

³⁴Banister, 1992, Table 2.

³⁵Based on hospital records of about 1.2 million births per year, by 1990 the sex ratio at birth in China had risen to 109.1 males per 100 females born. For details see Zeng Yi et al., 1992, 9.

³⁶Banister, 1986b.

³⁷Banister, 1992.

1970s and the 1980s is that the steep fertility decline of the early and mid-1970s allowed families and society to focus resources and health care on the smaller numbers of children per couple. Another contributor was the massive national infant and child immunization program funded by the World Health Organization and UNICEF, which began in 1978 and continues today.³⁸

There are important effects of China's low and improving mortality on fertility. Low infant and child mortality can lead to reduced fertility since parents know that their children are likely to live. By now, Chinese parents may realize that each newborn child is unlikely to die soon. This tends to increase the willingness of parents to settle for fewer births than they would have insisted upon in the past.

But reduced mortality also has effects that might raise fertility. Marriages are rarely disrupted by premature death, so couples tend to complete their childbearing before either dies; all else being equal, this tends to increase fertility. Similarly, China's reasonably good health conditions raise fecundity in comparison to the past. It was probably China's vastly improved morbidity and mortality conditions that brought about China's peak fertility levels of the 1950s and 1960s.³⁹ Mortality declines and health improvements tend to increase fertility and

³⁸UNICEF, 1989, 33.

³⁹In the beginning of the 1950s, Chairman Mao Zedong announced that promotion of birth control was a genocidal plot to wipe out the Chinese people. During the early Great Leap Forward period starting in 1958, he made famous ideological statements that more people means not only more mouths, but more important, more hands. This concept comes from Marxism's labor theory of value. Such words by Mao encouraged high fertility in the 1950s and 1960s.

population growth, which in turn increases the need for fertility control techniques and the likelihood that couples will be willing to use them.

D. Migration

For three decades until the late 1970s, China's population was extremely immobile except for government-directed moves to border provinces or new industrial bases. The fixed location of the vast majority of the population was controlled by the population registration system and rationing. This system facilitated family planning, contraceptive delivery, and official control of fertility. In rural areas, the livelihood of the long-term residents was controlled by the village production teams under the people's communes. When local authorities demanded compliance with fertility targets, it was difficult for people to resist.

China's economic reforms, initiated in 1978, have allowed greater population movement. Individuals are now permitted to leave their location of permanent registration and travel for days, weeks, or months for economic reasons, such as transport services or retail trade activities. People also may move "temporarily" to a town, city, or another rural location for business or other reasons. Because food is now plentiful, it can be bought in free markets without ration tickets. Increased numbers of permanent moves are also being allowed today.

The "floating" population, that is people away from their location of permanent residence, has recently been estimated at between 50 and 80 million, constituting about 4-7

percent of China's total population. However, migration and temporary movement are still difficult because of transport bottlenecks and occasional official discouragement at destination.⁴⁰

Increased migration has begun disrupting the system of regular monitoring of women's contraceptive status, menstrual record, and pregnancies. There have been numerous newspaper articles, radio broadcasts, videos, journal articles, speeches, urgent circulars, and regulations complaining that the fertility of female members of the floating population is out of control. These sources state that many women leave their villages on some pretext--for example to care for an ailing relative--to complete an unauthorized pregnancy, or they leave home with their husbands to live in a makeshift slum on the outskirts of a city and have numerous "illegal" children. These women are known in PRC literature as the "excess birth guerrillas." One Chinese source stated: "According to statistics of the relevant department, the births to the floating population throughout the country constitute 10 percent of the total number of births; furthermore, they are births outside the plan."⁴¹ Thus, a major focus of family planning effort in China at present is to attempt to control the fertility of the mobile population.

⁴⁰For example, in the 1982-1987 period, only 2.9 percent of China's population made a permanent or long-term (6 months or longer) move. China 1987 Sample Census, 1988, 677.

⁴¹Chen Bowen, 1989, 3.

III. China's Family Planning Goals and Policies

China's family planning program has been motivated in part by official concern about adequately feeding the population. During the period of agricultural reform since 1978, food production increases have far outpaced population growth. However, the government's population policies are still based on China's earlier population/food impasse that had been caused in large part by the traumatic economic policy failures of the previous three decades. China's leaders are not convinced that food security has been achieved. Besides, agricultural production, distribution, and storage problems are not all solved, and prime agricultural land is still being lost to development, so the government continues to be concerned about keeping up the per capita food supply as population keeps on growing.

Essentially, the Chinese government since about 1970 has attempted to lower the birth rate and population growth rate each year as much as possible. China's Constitution and Marriage Law as revised in the early 1980s state that couples are required to practice family planning. Provincial regulations, which have the force of law, specify the detailed requirements for residents of each province. There is pressure for late marriage and a limited number of children per couple.

China adopted a one-child policy in 1979, which it has attempted to implement ever since. This policy has been highly successful in the cities and urban towns, both because urban

people are more amenable to having only one child than are rural people, and because government control is more effective in urban areas. Rural people have resisted the one-child policy, and China's government has backed off to a two-child policy or a "one-and-a-half-child policy" for the rural areas of most provinces. The latter policy imposes a one-child limit on those couples with a firstborn son, but allows a second birth to those couples with a firstborn daughter.

Married women are monitored regularly by village, neighborhood, and workplace family planning personnel to achieve compliance with the regulations. Before conceiving a baby, couples must secure official permission to do so. According to China's fertility survey of 1988, the proportion of all births in the country that were "planned," which means authorized ahead of time by the authorities, rose from 51 percent in 1980 to 58 percent in the first half of 1988. This increase was probably due partly to greater forcefulness of the program, partly to changed attitudes favoring smaller families, partly to the rapid fertility decline among the minority population, and partly to the relaxation of the one-child limit in most rural areas. In 1988, the proportion of births that were pre-approved was 94 percent in cities, 57 percent in urban towns ("zhen"), and 52 percent in the countryside.⁴²

⁴²Li Honggui, 1991, 10.

IV. China's Family Planning Budget

A. Aggregate Family Planning Operational Budget

Sporadic figures relevant to total state budgetary expenditures for family planning have been reported in various Chinese sources. It is not an easy task to put these figures in orderly form since some of the reported figures are discrepant. By piecing together information from different sources, we created Table 8 with some reported figures and some reconstructed figures for the total state budgetary expenditures for family planning operations for the year 1978 and for years from 1980 to 1990.

Table 8 shows that family planning operational expenditures have been increasing every year. After conversion of the values into 1990 constant yuan, it is clear that total real expenditures in 1990 were 2.5 times as much as in 1978. In addition, real per capita expenditure has doubled in just over a decade.

The budget reported in Table 8, however, does not include all the actual spending in China's family planning program. For example, incentive payments to couples who pledge to stop at one child are not included in the operational budget, yet this is a big portion of family planning expenditures in some localities. In order to estimate a more complete set of figures for genuine expenditures in China's family planning program, it is necessary to first try to learn what is paid for out of "family planning operational expenses" and what is excluded from this

Table 8. China, Family Planning Operational Expenses, 1978-1990

Year	Total population in millions	In millions of current yuan		In millions of constant 1990 yuan	
		Total	Per capita	Total	Per capita
1978	956	198	.2	542	.6
1980	981	330	.3	778	.8
1981	994	(389)	.4	878	.9
1982	1,008	446	.4	925	.9
1983	1,022	(527)	.5	991	1.0
1984	1,033	(624)	.6	1,024	1.0
1985	1,045	745	.7	1,076	1.0
1986	1,058	803	.8	1,080	1.0
1987	1,073	852	.8	1,032	1.0
1988	1,088	1,004	.9	1,096	1.0
1989	1,105	(1,214)	1.1	1,275	1.2
1990	1,134	1,380	1.2	1,380	1.2

Notes: Figures for 1978, 1980, 1982, 1985-1988, and 1990 were reported in current Chinese yuan. Figures in parenthesis were derived from reports about the percent increase in the family planning operational budget from a previous year. To get rid of the problem of annual inflation, we used China's official GNP price deflators for 1978-1990 and calculated the expenditures in constant 1990 yuan.

Sources: 1978, 1985-1988 - China Finance Statistics, 1950-1988, 82.
 1980, derivation of 1981 estimate - China Family Planning Yearbook 1986, 263.
 1982 - Yang Deqing, 1990, 33.
 1990 - Cao Jingchun, 1991, 29.
 1983, derivation of estimate - China Family Planning Yearbook 1988, 95.
 1984, derivation of estimate - China Family Planning Yearbook 1986, 248.
 1989, derivation of estimate - China Family Planning Yearbook 1990, 143.
 China Statistics Abstract 1991, 3, 6.

nationwide formal budget. (The detailed information regarding family planning expenditures in China's national budget is discussed in Appendix A.)

B. Provincial Per Capita Operational Budget Expenditures

Table 8 shows that real per capita expenditures in China's family planning operational budget doubled from 1978 to 1989-1990, to 1.2 yuan per capita per year across the whole population. Of course, if the total budget were compared to only the adult population of childbearing ages, the calculated expenditures per capita for reproductive-age adults would be more than twice as large.

For 1988 and 1989, expenditures from the family planning operational budget have been reported by province. The total expenditures by the provinces (Table 9) fell short of total national family planning operational budget expenditures (Table 8) by 163 million yuan in 1988 and 197 million yuan in 1989. This difference each year probably represents expenditures at the national level for the State Family Planning Commission and other items not specific to any province.

Table 9 shows that most provinces spend close to 1 yuan (0.8-1.2 yuan) per capita each year in family planning operational expenses. Guangxi Province in the south has unusually high per capita spending, and Hainan in the south as well as Tibet have unusually low per capita expenditures; the reasons for these disparities are unclear. This family planning budget

Table 9: China, Family Planning Expenditures Per Capita, 1988 and 1989
(Total expenditure in thousands of current Chinese yuan,
per capita expenditure in yuan, population in thousands)

Province	Family planning expenditure 1988	Yearend population 1988	Family planning expenditure per capita 1988	Family planning expenditure 1989	Yearend population 1989	Family planning expenditure per capita 1989
Total	841,410	1,096,140	.77	1,017,200	1,111,910	.91
Beijing	9,720	10,810	.90	10,840	10,370	1.05
Tianjin	9,060	8,430	1.07	10,670	8,560	1.25
Hebei	51,350	57,950	.89	59,250	58,810	1.01
Shanxi	23,900	27,550	.87	26,270	27,930	.94
Inner Mongolia	23,490	20,940	1.12	26,220	21,220	1.24
Liaoning	32,650	38,200	.85	38,190	38,760	.99
Jilin	22,820	23,730	.96	25,680	24,030	1.07
Heilongjiang	30,640	34,660	.88	35,760	35,100	1.02
Shanghai	6,880	12,620	.55	9,230	12,760	.72
Jiangsu	34,160	64,380	.53	36,250	65,360	.55
Zhejiang	45,060	41,700	1.08	58,920	42,080	1.40
Anhui	28,040	53,770	.52	32,950	54,690	.60
Fujian	24,560	28,450	.86	30,830	28,960	1.06
Jiangxi	25,740	36,090	.71	25,340	36,950	.69
Shandong	49,970	80,610	.62	60,260	81,600	.74
Henan	38,970	80,940	.48	55,160	82,310	.67
Hubei	35,810	51,850	.69	42,750	52,590	.81
Hunan	40,480	58,900	.69	50,590	60,090	.84
Guangdong	74,920	59,280	1.26	88,180	60,250	1.46
Hainan	6,290	40,880	.15	7,160	41,510	.17
Guangxi	25,260	6,280	4.02	31,600	6,390	4.95
Sichuan	73,270	105,760	.69	81,170	107,060	.76
Guizhou	32,910	31,270	1.05	42,360	31,690	1.34
Yunnan	33,030	35,940	.92	42,770	36,480	1.17
Tibet	460	2,120	.22	530	2,160	.25
Shaanxi	27,900	31,350	.89	36,110	31,910	1.13
Gansu	17,550	21,360	.82	20,010	21,720	.92
Qinghai	4,020	4,340	.93	4,630	4,400	1.05
Ningxia	4,340	4,450	.98	5,400	4,450	1.21
Xinjiang	8,160	14,260	.57	12,120	14,540	.83

Sources: China Family Planning Yearbook 1990, 140-145; China Statistical Yearbook
1989, 89; 1990, 91.

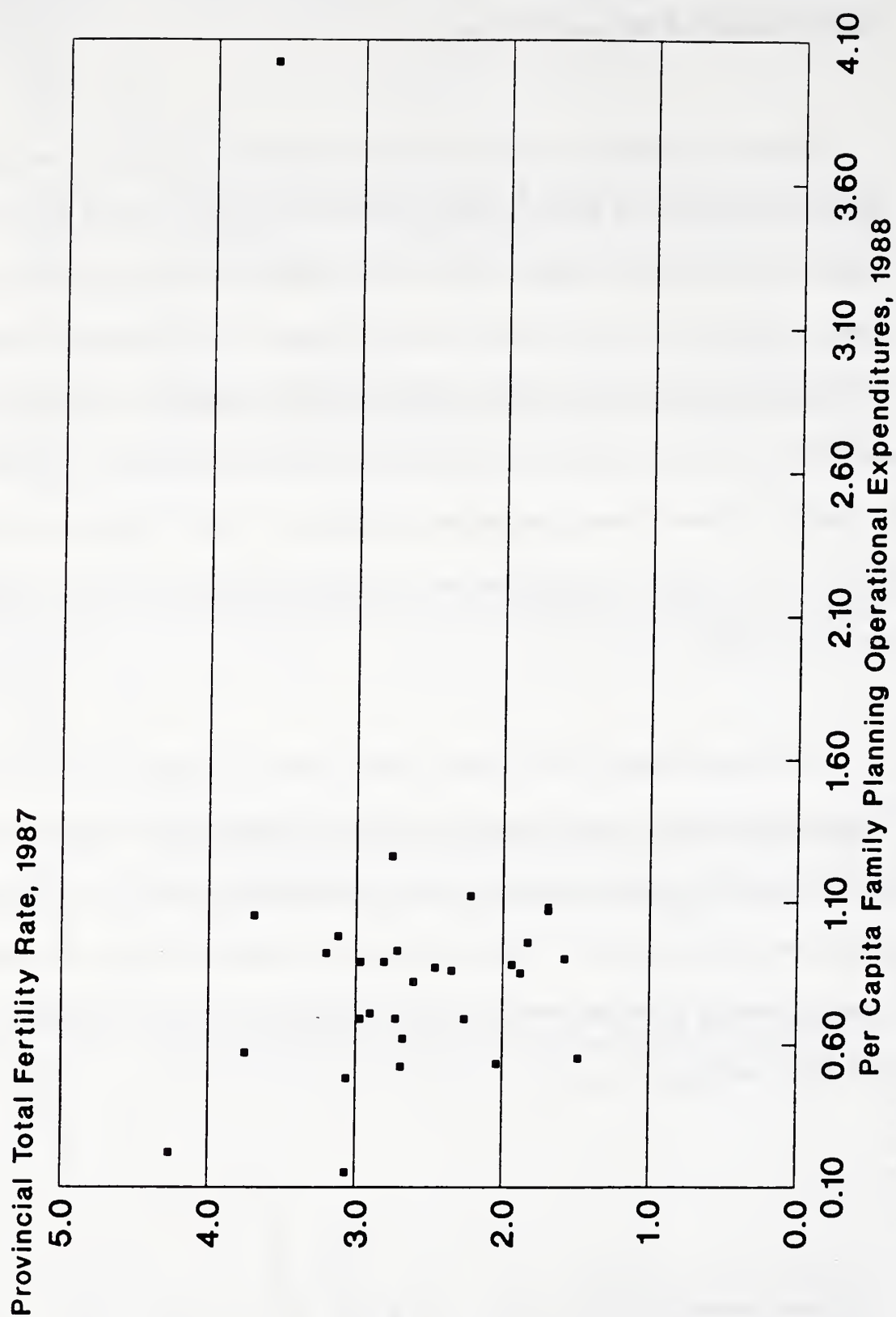
increased in most provinces from 1988 to 1989, with the greatest percent increase in the minority nationalities region of Xinjiang.

Figure 4 is a scattergram created to determine whether there is any relationship between the fertility level and the family planning operational budget in each of China's provinces. Figure 5 is the same graph with the extreme case of Guangxi Province excluded. Some might expect, for example, that China's family planning program would focus family planning funds on those provinces with highest fertility, while others might argue that unusually high per capita expenditures on family planning in a province might bring about and therefore be correlated with low fertility. Neither of these hypothesized relationships is evident. The points in Figures 4 and 5 appear to be random. Map 3 shows per capita family planning operational expenditures by province for 1989.

For China's Eighth Five-Year Plan, which covers 1991-1995, many provinces plan to increase their budgets for family planning. The national guideline is that financial expenditures devoted to family planning ventures at all levels should gradually rise from around one yuan per capita to two yuan per capita.⁴³ Table 10 illustrates the 1990-1991 level of per capita spending on family planning in various provinces and the projection by each province as to when it will reach target funding.

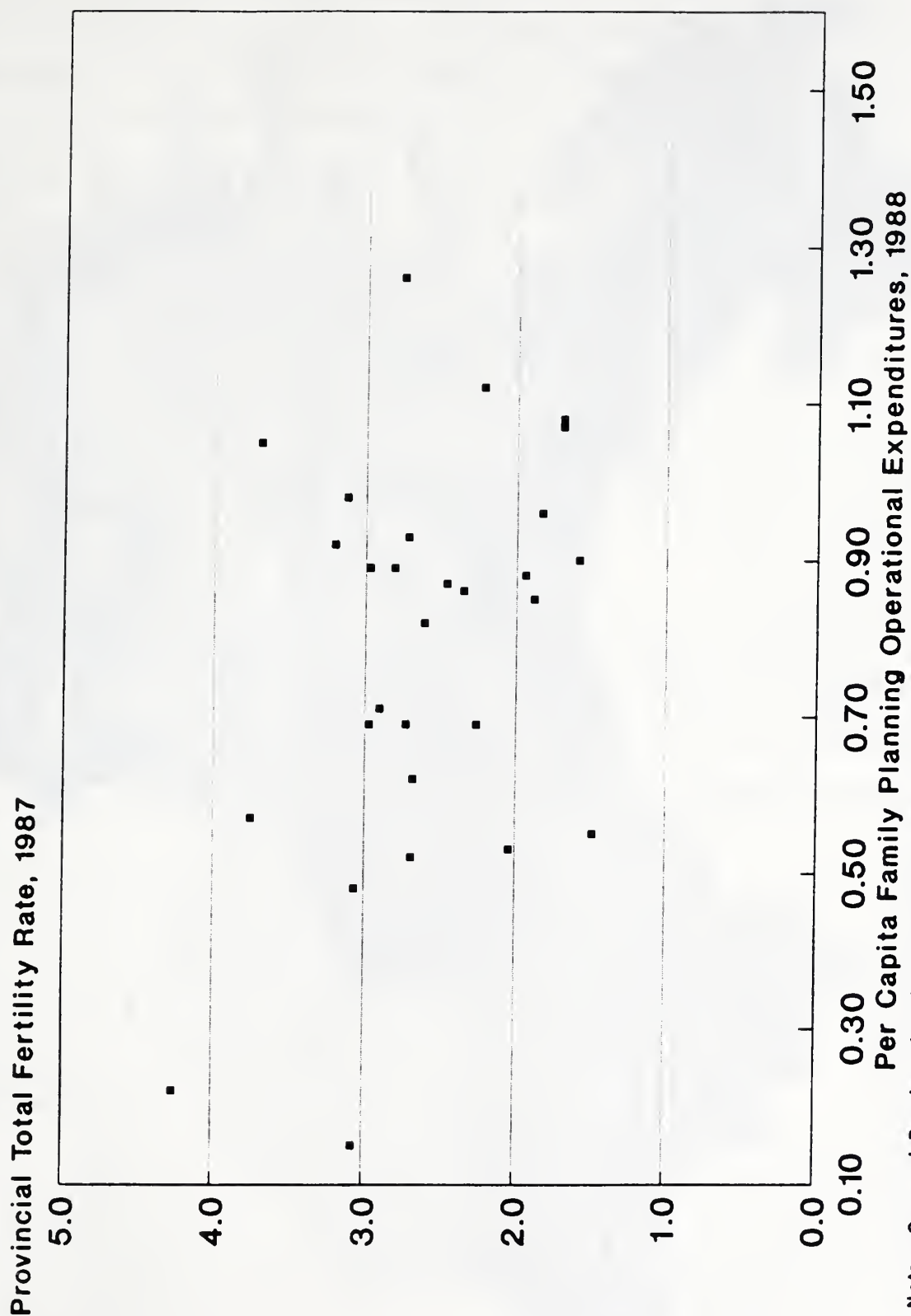
⁴³Xinhua report, 1991, 33-36.

Figure 4. China: Provincial Fertility Level and Per Capita Family Planning Operational Expenditures, 30 Provinces



Sources: Table 9; China Population Newsletter, Apr. 1989, 7.

Figure 5. China: Provincial Fertility Level and Per Capita Family Planning Operational Expenditures, 29 Provinces



Note: Guangxi Province has been deleted from this graph.
Sources: Table 9; China Population Newsletter, Apr. 1989, 7.

Map 3: China, Reported Annual Per Capita Family Planning Operational Expenditures by Province, 1989
(In current yuan)

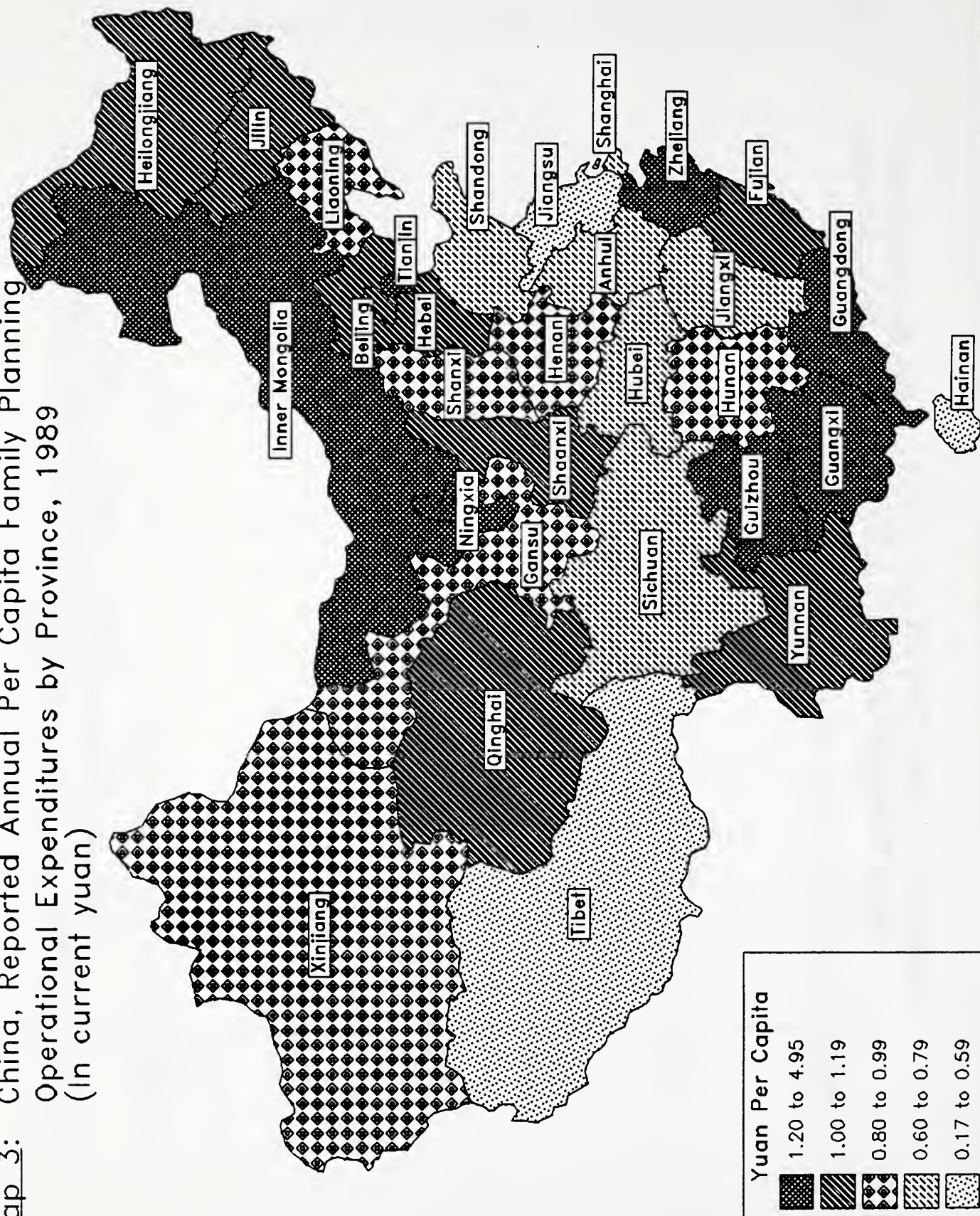


Table 10: China, Reported and Planned Per Capita Family Planning Expenditures by Various Provinces

Province	Period of the Eighth Five-Year-Plan					
	1990-1991	1991	1992	1993	1994	1995
Beijing						2.50
Tianjin	1.48		2.00			
Hebei	1.00			2.00		
Shanxi						1.50
Inner Mongolia	1.28			2.00		
Liaoning	1.00	1.30				
Jilin	1.30					2.00
Shanghai	.99					2.00
Jiangsu	.71		1.42			
Fujian	2.00					
Jiangxi	1.16					2.00
Shandong						2.00
Guangdong	1.78					2.78
Hainan	1.40					2.80
Sichuan	.80					2.00
Shaanxi	1.50	2.00				
Gansu				2.00		
Xinjiang	1.22					2.50

Sources: Zhongguo renkou bao (China Population), Feb. 4, 1991, 1; May 17, 1991, 1; May 20, 1991, 1; June 10, 1991, 1; June 28, 1991, 1; July 5, 1991, 1; July 15, 1991, 1; July 19, 1991, 1; July 22, 1991, 1; July 26, 1991, 1; July 29, 1991, 1; Aug. 5, 1991, 1.
Zhongguo tongji xinxibao (China Statistical Information Daily), June 24, 1991, 1.

The data in Table 10 suggest that each province has some autonomy in determining the size of its own input into the family planning program. By the same token, each locality also has enough autonomy to decide what proportion of its family planning funds to allocate to various projects. For example, in 1987, Beijing Municipality decided to spend more money in its IEC (information, education and communication) program. Therefore, it made a 122 percent increase to its 1986 amount spent on IEC.⁴⁴ Meanwhile, Yingshan County of Hubei Province in 1987 decided to spend 30.3 percent of its budgetary expenditure in its IEC program.⁴⁵ According to Jiangxi's 1989 report, 22 percent of its 1989 budgetary expenditure was for IEC service station expenditures, 4.2 percent was for single-child insurance, 0.4 percent was for contraceptive supplies, 0.5 percent was for staff training expenditures and 23 percent was for other expenses.⁴⁶

The provincial Communist Party committee can set the standard for desired per capita funds for family planning operational expenses to be raised by departments at lower levels. Hebei Province provides an example. In order to solve the problem of insufficient funds for family planning operational expenses, the standing committee of the Hebei provincial Party committee in 1986 decided that funds must be raised by the towns and townships. A certain amount per capita was set by the Party committee for the towns and townships. In order to meet the quota, either the town/township enterprises had to contribute a portion of their retained

⁴⁴China Family Planning Yearbook 1988, 150-151.

⁴⁵China Family Planning Yearbook 1988, 198.

⁴⁶China Family Planning Yearbook 1990, 265-266.

earnings or profits or the public themselves were asked to pay from their own pockets. The funds raised would be used to pay wages and other operational expenses such as IEC, training and other activities for family planning. By the end of 1987, 132 counties in Hebei had started the fund-raising. By 1989, 115 out of 139 counties and cities in Hebei had reached the standard for counties set by the provincial Party committee and the provincial government, that is, the standard of 0.5 yuan per capita raised for family planning operational expenses. Then, after the provincial authorities increased the goal for townships and villages to one yuan per capita, a total of 32 million yuan was raised.⁴⁷

C. Complexity of China's Family Planning Financial Accounting

The budget for family planning operational expenditures represents only part of the actual spending on China's family planning program. Local governments, factories, offices, military units, clinics, women's associations, family planning associations, village committees, and neighborhood committees gather funds through taxation or required levies or from their regular income. They then disburse the funds locally for desired or mandated spending on family planning. Very little information has been reported on the amounts of these family planning expenditures.

⁴⁷Figures in this paragraph from China Family Planning Yearbook 1988, 155; China Family Planning Yearbook 1990, 221.

The multi-layered structure of family planning expenditures may contribute to the paucity of reported family planning financial figures. A table from a study conducted by Shanghai County on the costs of family planning from 1979 to 1983 illustrates the complexity of the costs of its family planning program (see Table 11). Shanghai County may be unique and not representative of most of China, but this accounting offers a glimpse of the family planning budget in one of China's most developed and urbanized counties, adjacent to the city districts of Shanghai.

Table 11 shows that entries of family planning expenditures include not only wages for full-time and part-time family planning workers, and expenditures for running offices, providing contraceptive supplies and devices, providing free birth control surgery, and purchasing equipment and instruments, but also the cost of the one-child incentive program. Table 11 also indicates that on average the one-child incentive program accounts for 80 percent of the total cost of the family planning program in Shanghai County.

The next question we may logically ask is who is paying for all the listed expenses. We then face an even more complicated aspect of family planning funding.

Responding to the report of the meeting attended by directors of family planning committees nationwide, Premier Li Peng said in February, 1989, "...money spent for family planning expenditures is not much. It will be better for each province and each unit to cope with its own expenditures. Expenditures occurring in the locality should be taken care of by the

Table 11: Cost of Family Planning in Shanghai County, 1979-1983
(In current yuan)

Items	1979	1980	1981	1982	1983
Full-time workers	15,890.11	16,654.61	20,002.64	20,173.16	23,786.91
Part-time workers	77,144.67	87,941.16	90,934.51	100,417.23	118,428.91
Reimbursed fees for birth control surgery	23,783.14	28,121.94	27,267.19	35,626.40	52,542.21
Sick leave for birth control	41,462.31	107,772.81	108,091.21	153,972.61	335,683.41
Bonus leave for later marriage			109,669.90	78,924.33	78,005.31
Bonus leave for delayed pregnancy			75,978.22	237,089.00	208,645.81
Post-sterilization special nutrition allowance	310.00	180.00	690.00	1,530.00	2,400.00
Post-IUD failure, abortion special nutrition allowance	60.00	825.00	1,630.00	2,715.00	6,610.00
One-child family monthly payments	55,520.00	774,832.00	1,523,538.00	2,454,060.00	3,206,670.00
One-child family contract one time bonus	161,805.00	451,940.00	262,270.00	402,290.00	222,360.00
One-child nursery and kindergarten fees	32,776.00	267,072.00	515,712.00	660,648.00	810,624.00
One-child primary and middle school tuition	3,623.00	12,361.00	17,653.00	25,364.00	30,440.00
Contraceptive supplies	33,027.00	24,871.38	24,910.99	30,924.62	32,298.95
Family planning office expenses		4,342.69	6,884.46	6,362.41	6,700.60
Family planning operational expenses			443.09	4,411.32	5,847.81
Equipment purchase			625.50	7,263.85	3,147.00
Other expenditures	20,138.80	6,131.64	4,900.22	13,524.07	26,691.41
Funds allocated from upper level government	2,764.69	16,588.18	21,757.50	50,669.60	30,996.90
Total	468,304.72	1,799,634.41	2,812,958.43	4,285,965.60	5,201,879.41

Percent of total

Items	1979	1980	1981	1982	1983
Full-time workers	3.39	.93	.71	.47	.41
Part-time workers	16.47	4.89	3.23	2.34	2.21
Reimbursed fees for birth control surgery	5.08	1.56	.97	.83	1.01
Sick leave for birth control	8.85	5.99	3.84	3.59	6.41
Bonus leave for later marriage	.00	.00	3.90	1.84	1.50
Bonus leave for delayed pregnancy	.00	.00	2.70	5.53	4.01
Post-sterilization special nutrition allowance	.07	.01	.02	.04	.01
Post-IUD failure, abortion special nutrition allowance	.01	.05	.06	.06	.11
One-child family monthly payments	11.86	43.05	54.16	57.26	61.64
One-child family contract one time bonus	34.55	25.11	9.32	9.39	4.27
One-child nursery and kindergarten fees	7.00	14.84	18.33	15.41	15.58
One-child primary and middle school tuition	.77	.69	.63	.59	.59
Contraceptive supplies	7.05	1.38	.89	.72	.62
Family planning office expenses	.00	.24	.24	.15	.13
Family planning operational expenses	.00	.00	.02	.10	.11
Equipment purchase	.00	.00	.02	.17	.01
Other expenditures	4.30	.34	.17	.32	.51
Funds allocated from upper level government	.59	.92	.77	1.18	.61
Total	100.00	100.00	100.00	100.00	100.00

Note: *This appears to be a residual spending category which is paid for by a subsidy from higher levels. We have left it in the list of expenditures because it was reported this way by Shanghai County.

Source: Gao Ersheng et al., 1990, 274.

locality and expenditures occurring in the military should be taken care of by the military. As to how to cope with the problems, please discuss among yourselves and come up with your own solutions."⁴⁸ Premier Li Peng's speech indicates that financing the costs of family planning in China is, to a great extent, the responsibility of provinces and localities.

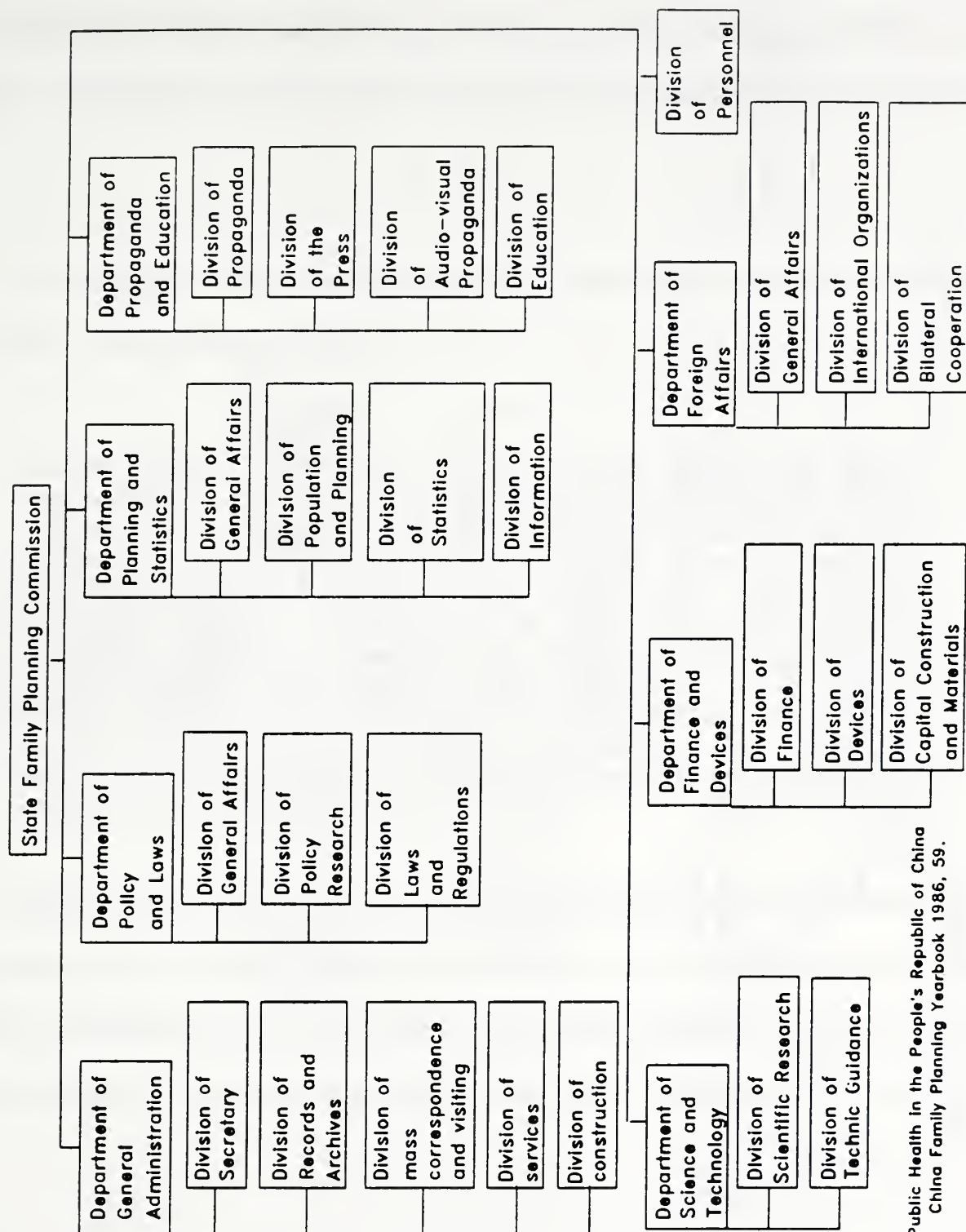
Certain aspects of China's family planning program are extremely decentralized. On the one hand, the central government as well as the provincial governments stipulate family planning policy as well as guidance and allocate a certain amount of family planning funding. On the other hand, each locality, down to village teams, assumes responsibility for carrying out the policy and for raising funds for different projects.

China's family planning organizations are set up like a pyramid, similar to other organs of political power in China. At the top of the pyramid is the State Family Planning Commission, and at the bottom are the peasant small groups, neighborhood small groups, and the workshop or section teams. The attached Figures 6 and 7 show this complicated organizational structure.

The family planning program in China is a team project. Besides the family planning commission, committees, divisions and offices at all levels, numerous other government ministries and departments also involve themselves in this program to make it successful. In

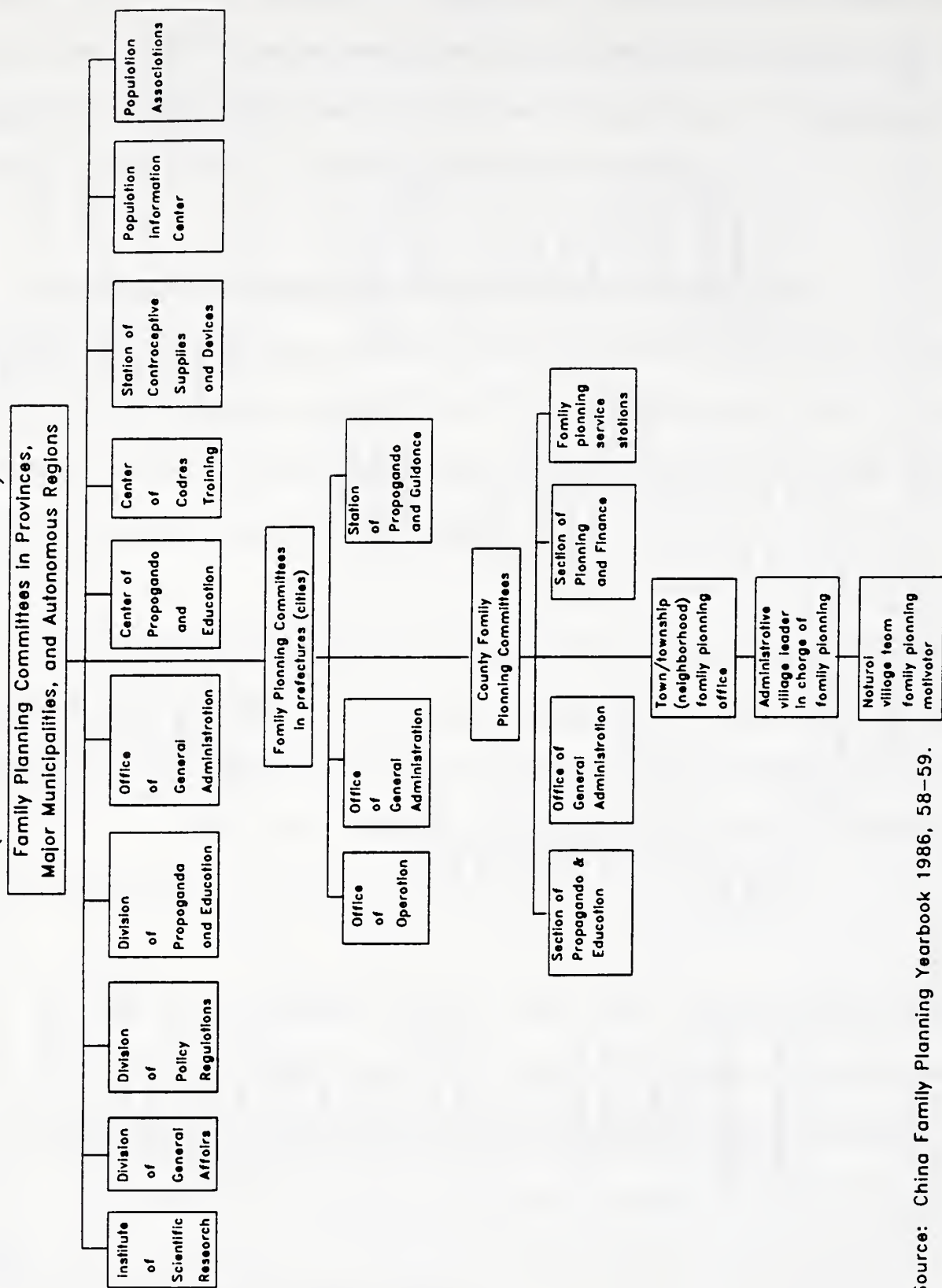
⁴⁸China Family Planning Yearbook 1990, 7-8.

Figure 6: Organization of the National Family Planning Program
(Central Level)



Sources: Public Health in the People's Republic of China 1989, 227. China Family Planning Yearbook 1986, 59.

Figure 7: Organization of the National Family Planning Program
(Provincial and Local Level)



Source: China Family Planning Yearbook 1986, 58-59.

addition, there are seven public family planning and population institutions directly under the administration of the State Family Planning Commission and two affiliated population social groups. (The detailed information regarding the relevant organizations is included in Appendix B.)

The complexity of the decentralized sources for funding family planning costs in China is described in the following overview:

Multiple sources of support for the family planning program exist at all organizational levels. These include the State Family Planning Commission; other central government ministries including Public Health, Social Welfare and Education; factories, cooperative stores, the military, railways, educational institutions--in sum, any organization employing people; town/townships (formerly communes), as distinct from the above; direct unreimbursed expenditures of private individuals (to a minor extent); and extensive services by unpaid volunteers. Responsibility for financial support of the family planning program is shared by the government and the communities. The central government finances the costs for all contraceptive supplies and surgical services, but communities shoulder most of the financial responsibility for the program's operation and payment of incentives.⁴⁹

The number of "communities" financing the family planning program as of 1989 included governments of 30 provinces, 151 prefectures, 447 cities, 1,919 counties, and 55,764 rural villages and towns as well as 746,432 village neighborhood committees.⁵⁰ Family planning funds are also provided by 2,251 birth control service stations at the county level and 20,552

⁴⁹Neumann and Chang, 1988, 121.

⁵⁰China Statistical Yearbook 1990, 3; China Rural Statistical Yearbook 1990, 27.

service stations at the village/town level,⁵¹ as well as 102,300 state-owned industrial enterprises and 1,747,000 collective industrial enterprises.⁵² In one way or another, these organizations are involved in the financial activities supporting family planning.

There are millions of organizational units involved in paying for China's birth planning program. Most of them lack well-trained accountants and modern office equipment such as computers and software to account for the expenditures. Nevertheless, the PRC has an extensive year-end reporting system from lower to higher administrative levels that has been in use for decades. It would be possible to compile expenditure data for the birth control program up the administrative hierarchy, or carry out a specialized survey on current sources of funds. Unfortunately, a systematic accounting is not available, in contrast to the availability of detailed data on health expenditures that are regularly published by the government.

D. Components of the PRC Family Planning Operational Budget

China's Family Planning Yearbook 1990 reported that the budget called "family planning operational expenditures" mainly derives from budgetary allocations from finance departments at all governmental levels.⁵³ What is and what is not covered by the budgetary expenditures allocated by the Ministry of Finance for family planning operational expenses was spelled out

⁵¹Lan Qing, 1990, 1.

⁵²China Statistical Yearbook 1990, 409.

⁵³China Family Planning Yearbook 1990, 143.

in a regulation issued in 1983. (See Appendix C for detailed clauses of the regulation).⁵⁴ This regulation stipulates that the budget for family planning operational expenditures covers expenses for contraceptive supplies, birth control surgeries, office operational expenses (including staff training, attending meetings, travel, office equipment, propaganda materials), purchasing small instruments for birth control service stations, and wages for the full-time family planning cadres in the rural villages and urban neighborhoods.

On the other hand, the 1983 regulation specifies that costs of birth control surgeries for workers and staff of state-owned enterprises or of military personnel and dependents are not covered by the operational expenditures; they are paid for out of the free medical care to which these people are entitled, and out of the enterprise and defense budgets. Furthermore, the regulation states, family planning organizations at county level and above are designated as administrative organs, and their staffers are to be designated as administrative personnel; the wages and other expenses of these organizations are supposed to be paid out of administrative expense budgets separate from the family planning operational budget. The regulation also stipulates that the work units of the parents of an only child should assume the responsibility for the one-child health fund. However, no further details concerning the one-child incentive program were discussed in this regulation.

If we compare the cost components of the family planning program in Shanghai County as listed in Table 11 with components listed in the 1983 national regulation (Appendix C), we

⁵⁴Compilation of PRC Public Health Laws, (1981-1983), 1985, 500-503.

discover that Shanghai County accounts for its expenses on the one-child and birth control incentive program in much greater detail. It is obviously costly to cover all these expenses such as sick leave for birth control, bonus leave for later marriage and delayed pregnancy, post-sterilization special nutrition allowance, abortions following IUD use, abortion special nutrition allowance, one-child family monthly payments, one-child family contract one-time bonus, one-child nursery and kindergarten fees, and one-child primary and middle school tuition. According to the 1983 regulation, the budgetary operational expenditures do not cover the above-mentioned expenses, and Shanghai County's experiences show that state-owned and collective enterprises are shouldering these expenses.⁵⁵ In order to determine the aggregate level of family planning spending in China, all the items mentioned in the 1983 regulation and in Table 11 ideally should be taken into consideration.

In addition, even though the 1983 regulation is by far the most detailed regulation regarding family planning funding that appear to be available, directives on capital construction for family planning programs, maternity and child health care (MCH) and foreign aid were not included in this regulation. These three categories are relevant to family planning programs and expenditures but usually discussed and handled separately. In later sections of this paper, these three categories are also addressed. (Detailed information regarding the maternal and child health network in China is included in Appendix D.)

⁵⁵For details see Gao et al., 1990, 270-271.

V. Estimated Spending on Family Planning in China

Because the available information is reported in fragments and in scattered sources, it is difficult to estimate how much of the family planning program resources (money and personnel) goes to supplying birth control techniques, how much goes to IEC work, and how much is used for the one-child incentive program.

It would be helpful if China's other provinces would follow the Jiangxi Province example and present at least a brief report as follows: In 1989, family planning operational expenditures reported by Jiangxi Province totaled 36,568,000 yuan, among which 36 percent was applied to free or discounted birth control surgical fees (13,164,480 yuan), 13.9 percent went to grass-roots level staff and administrative expenditures (5,082,952 yuan), 22 percent was applied to IEC service station expenditures (8,044,960 yuan), 4.2 percent went to single-child health care (1,535,856 yuan), 0.4 percent went to contraceptive supplies (146,272 yuan), 0.5 percent was allocated for staff training expenditures (182,840 yuan) and 23 percent was applied to other expenses (8,410,640 yuan).⁵⁶ However, no other family planning financial report can be found that provides even this much detail.

In order to derive a more realistic figure for the true costs of China's family planning program, we have attempted in Table 12 to estimate the costs of each major type of expense

⁵⁶Our calculation based on information from China Family Planning Yearbook 1990, 265-266.

Table 12: China Estimated Family Planning Expenditures, 1985, 1987, and 1989
(In current yuan)

Items	1985 amount	Percent of the total	1987 amount	Percent of the total	1989 amount	Percent of the total
Wages for full-time family planning personnel	226,255,584	7.23	214,661,856	5.79	317,520,000	6.98
Wages and other payments for part-time workers	84,000,000	2.68	100,080,000	2.70	156,000,000	3.43
Payments to contraceptive distributors	61,965,720	1.98	86,373,792	2.33	99,332,928	2.18
Estimated expenditures for continuing users	20,262,178	.65	21,436,012	.58	23,605,090	.52
Reimbursed fees for birth control surgery	254,390,353	8.12	346,083,197	9.34	442,444,490	9.73
Cost of procuring contraceptive supplies	56,092,098	1.79	67,842,504	1.83	71,826,993	1.58
Family planning office expenses	15,512,779	.50	15,737,093	.42	23,676,000	.52
IEC expenditures	42,730,593	1.36	42,730,593	1.15	42,730,593	.94
Contraceptive and other family planning research	4,000,000	.13	4,000,000	.11	5,483,449	.12
Equipment purchase	22,864,103	.73	12,270,000	.33	72,325,000	1.59
Special fund for capital construction	4,800,000	.15	--	.00	25,500,000	.56
Training of family planning workers and cadres	5,760,000	.18	14,585,790	.39	14,984,400	.33
Single-child family monthly health subsidy	1,766,757,900	56.42	1,938,287,400	52.28	2,128,025,220	46.80
Single-child family contract one time bonus	50,861,440	1.62	71,854,920	1.94	41,470,880	.91
Single-child nursery and kindergarten fees	280,139,580	8.95	213,883,488	5.77	128,390,748	2.82
Single-child primary and middle school tuition	234,888,500	7.50	557,524,891	15.04	953,562,533	20.97
Total	3,131,280,828	100.00	3,707,351,536	100.00	4,546,878,324	100.00
Ratio to family planning operational budget	4.20		4.35		3.75	

-- Not available.

Notes for Table 12:

Some of the figures in this table are directly reported, while most are estimated from other available information. The derivation of figures on wages for full-time family planning personnel in 1985 and 1987 is shown in Table 13. Our estimated monthly average wage in 1985 is 140 yuan; in 1986, 180 yuan; and in 1987, 121 yuan. We use the average of these three average wages, 147 yuan, to estimate the 1989 figure.

There were reported to be one million part-time family planning workers in 1985 and 1989. We went through all provincial reports in China Family Planning Yearbook 1988 to come up with the 1987 figure of 834,000 part-time family planning personnel. We then use 7 yuan, 10 yuan and 13 yuan per month for the part-time workers' allowance for these three years. This is a rather conservative estimate. In Panshi County of Jilin Municipality, Jilin Province, part-time family planning workers are paid 420 yuan per year plus 5 yuan allowance per month. In addition, newspapers and magazines frequently urge the authorities to increase the allowance for family planning workers to keep up with inflation and to keep the workers highly motivated.

The number of contraceptive distributors was reported by administrative level for 1989. For 1985 and 1987, we use reported numbers of provinces, prefectures, counties, towns/townships and villages. We then assign 7 workers to the provincial level in each province, 3 to each prefecture, 2 to each county, and 1 to each lower level unit. Five yuan per month for allowance is used in 1985 and 8 yuan per month for allowance is used in 1987 and 1989, as mentioned in the unpublished document from Yunnan Provincial Family Planning Committee issued on July 3, 1986.

Figures for estimated expenditures for continuing users, reimbursed fees for birth control surgery, and cost of procuring contraceptive supplies are derived from Table 17.

According to Shanghai County data (Table 11), the total family planning office expenses of 1980 to 1983 was equivalent to 5 percent of the total of full-time and part-time wages for the same period of time. We therefore use 5 percent of the total of full-time and part-time wages in 1985, 1987, and 1989 to estimate the family planning office expenses for the corresponding year.

According to the report in the China Population Newsletter of April 1990, the Chinese government had invested 78.26 million yuan in core funding for IEC work for the previous five-year period. For various kinds of mass media devices, we estimate the costs of production as 300 yuan per TV film, 3 yuan per book, .08 yuan per pamphlet, 0.5 yuan per periodical, 1 yuan per picture book, .08 yuan per poster, 5 yuan per hanging chart, .25 yuan per newspaper and 1 yuan for other objects to obtain our estimates for IEC expenditures in 1985, 1987, and 1989.

It was mentioned by Mr. Wu Jingchun, Deputy Director of the State Family Planning Commission, in his September 26, 1989 speech that the average expenditure in family planning research is 4 million yuan per year. We use this figure for 1985 and 1987. For 1989, we have a more detailed report on expenditures for purchasing scientific research equipment.

Scattered figures are found in the family planning yearbooks reporting expenditures on equipment purchased for family planning service stations at all levels and for contraceptive distribution stations. We only use the incomplete figures available for each year.

Figures on a special fund for family planning capital construction are available for 1985 and 1989. We are not able to find data for 1987.

Short-term training sessions are given for family planning personnel at various levels. We have scanned the family planning yearbooks and use the reported figures for the number of sessions given and for numbers of participants. We estimate the cost at 30 yuan per participant per training session in 1985, 1987 and 1989.

Figures for single-child family monthly health subsidy and single-child family contract one-time bonus are derived from Table 18.

For the number of single children attending nursery and kindergarten for free, we compute the total of children ages 0-5 in 1985, 1987, and 1989 using data from Table 18 on single-child certificates issued each year. We then assume that half of these children attend nursery and kindergarten while the other half are cared for at home. Twenty-four yuan per child per year is used for our estimates for single-child nursery and kindergarten fees, as given in the computation of the cost for the single children attending nursery and kindergarten for free in Shanghai County.

For the number of single children attending primary and middle school with all fees waived, we compute the total of children ages 6 in 1985, 6-8 in 1987 and 6-10 in 1989 whose parents have signed the one-child certificate, using data from Table 18. We then use 38.5 yuan per child per year for our estimates for expenditures of single-child primary and middle school tuition. This figure is based on a 1988 Xinhua report that each school pupil in the rural areas of Hubei Province paid an average of 38.5 yuan in tuition in the previous year.

We compare our totals in Table 12 with figures in Table 8 to obtain the annual ratio of our estimated costs for the family planning program to the reported family planning operational budget.

Sources for Table 12:

Table 8; Table 11; Table 13; Table 17; Table 18;
Yu Changhong, 1990, 18;
Jan Wong, 1990, A.9;
Xue Baosheng, 1990, 62-64;
Zhang Faying, 1990, 16;
Gao Ersheng, et al. 273;
China Family Planning Yearbook 1986, 48, 241, 256, 259, 323, 333;
China Family Planning Yearbook 1988, 67, 114;
China Family Planning Yearbook 1990, 123, 134, 146-147, 163-165;
China Rural Statistical Yearbook 1986, 3;
China Rural Statistical Yearbook 1988, 3;
China Statistical Yearbook 1986, 3;
China Statistical Yearbook 1988, 3;
Public Health Yearbook 1988, 112;
Xinhua News in China Daily, June 4, 1988, 3.
Unpublished document from Yunnan Provincial Family Planning Committee issued on July 3, 1986.

incurred in the program. More detailed data are available for 1985, 1987, and 1989 than for any other years. In Table 12, available evidence from China is used to assign a cost to each expenditure category in yuan, then added up the total expenditures. Subsequent sections of this report document certain expenditure categories in greater detail, for example, wages for family planning workers, costs of birth control surgery and supplies, and single-child incentive expenses.

According to our estimation, the total cost of China's family planning program in 1989 reached 4.55 billion yuan. Expenses for wages of full-time and part-time family planning workers accounted for about 13 percent of the total; expenses for the one-child incentive program and rewards comprised about 72 percent of the total cost; expenses for reimbursed contraceptive surgery and supplies accounted for 11 percent; and all but one of the remaining categories accounted for less than one percent each. It is interesting to find that expenses for IEC (information, education, and communication) accounted for less than one percent of the total program costs while the expenses for the one-child incentive program made up seven tenths of the total costs.

The number of married women of childbearing age in China totaled 212 million in 1989. We thus calculated that the family planning expenditure for these women was 21 current yuan per person in 1989. Applying the 1989 official exchange rate, we converted the yuan into US dollars and obtained the figure of US\$5.71 in family planning expenditures for each married

woman of reproductive age in China in 1989. Applied to China's total 1989 population, the per capita cost was 4 yuan or US\$1.08 for the family planning program.

A. Public and Private Provision of Services

In China, the family planning program is almost 100 percent provided by the public sector. However, from 1990 on, drug stores in medium-sized and large-sized cities, as well as hospitals, maternal and child health stations and other medical clinics were supposed to start retailing contraceptive pills and devices. In addition, some supply and marketing cooperatives in relatively prosperous rural areas also are setting up pilot points to retail contraceptive supplies.

This small private component of China's family planning program developed only recently. For public convenience and in order to eliminate waste, a pilot project for retail sale of contraceptive pills and devices was initiated in 1986. It proved to be highly effective. Beginning in May 1987, 132 drug stores in Beijing started selling contraceptive supplies and devices at the manufacturer's price (cost of production, unsubsidized by the family planning delivery system) instead of providing them free.⁵⁷ In November 1988, a "Circular on Strengthening the Production and Supply of Contraceptive Pills and Devices" was jointly issued by the State Family Planning Commission, the Ministry of Finance, the Ministry of Chemical Industry, the Ministry of Commerce, and the State Pharmaceutical Administration. The circular

⁵⁷China Family Planning Yearbook 1988, 150.

instructed that the dual-track system which combines planned and free-of-charge allocation of contraceptive pills and devices with retailing in the market (the retail price is 15 percent higher than the factory listed price) be widely adopted.⁵⁸ The circular called for all drugstores, hospitals and supply and marketing cooperatives throughout the country to retail contraceptive drugs and devices. According to incomplete data, by the end of 1989, there were 5,548 drugstores, 2,195 hospitals, 1,802 supply and marketing cooperatives as well as more than 3,000 other kinds of organizations in China selling contraceptive drugs and devices. In all, 1.2 million sets of contraceptive supplies and devices were distributed through this arrangement.⁵⁹

The only "non-governmental" organization which is active in the family planning program is the China Family Planning Association (CFPA). The Association is led by paid full-time family planning cadres who steer the organization to follow government policy. Beijing Review presented a brief description of CFPA as follows: "The China Family Planning Association, a non-governmental organization, has 500,000 grass-roots branches and a membership of 20 million. In co-ordination with the relevant government departments, the association plays an active role in pushing forward the work of family planning."⁶⁰ A 1990 article stated that "By the end of September, 665,000 branches had been established with more than 28.1 million members....The CFPA is a nationwide non-governmental organization composed of retired workers, medical staff and representatives of such mass organizations as the women's federation

⁵⁸Office of Contraceptive Supplies and Devices, State Family Planning Commission, 1989, 2.

⁵⁹Song Yixia, 1990, 1.

⁶⁰Cheng Gang, 1990, 20-22.

and the youth league. It was formed to assist the government by raising public awareness of family planning issues."⁶¹ By July 1991 the number of CFPA branches had reportedly exceeded 700,000 and the number of members totaled more than 35 million.⁶²

Even though the CFPA is classified by the government as a non-governmental organization, financially it is assisted by the State Family Planning Commission and family planning offices at other levels of government. The Commission issued a circular in October 1989 regarding giving energetic support to CFPA. This circular gave important impetus to the establishment of the CFPA. The family planning personnel offices in numerous provinces and cities report that they provide paid personnel to the CFPA at provincial and local levels.⁶³ At least part of the working expenses of these Associations has thus been met. The budget of the China Family Planning Association "mainly relies on subsidies from the relevant government departments, donations from individuals and social groups, and aid from international organizations."⁶⁴ The CFPA should thus be considered a part-public, part-private effort. It must adhere to official family planning policies. According to the statistical data from the end of 1989, the CFPA above the county level in China was staffed with 4,796 full-time paid official and 96,185 part-time staff. In some areas, even the CFPA at the township level was staffed with

⁶¹Staff Reporter, China Daily, Nov. 22, 1990, 3.

⁶²Wang Shoudao, 1991, 1,2.

⁶³China Family Planning Yearbook 1990, 316.

⁶⁴China Family Planning Yearbook 1986, 64.

personnel specially designated for the CFPA task.⁶⁵ It was reported that by November 1990, CFPA at all levels had full-time workers and staff numbering about 5,500 persons.⁶⁶

B. Family Planning Personnel and Facilities

a. Family Planning Cadres and Workers

Since China has a vast territory, it is difficult to establish a comprehensive family planning network, especially in the rural areas. During the 1980s, staffing of the system expanded. Yet the numbers of paid personnel appear small for a population of over one billion.

The total number of full-time family planning workers and staff (often referred to as "cadres") increased from 44,878 in 1979 to 134,671 in 1985. The average annual increase rate was almost 20 percent. By the end of 1987, the number of cadres working in the family planning system totaled 142,157 persons (not including Tibet and the units directly under the State Family Planning Commission).⁶⁷ The total family planning cadres in China account for about 0.1 percent of the total salaried workers and staff in the country. According to the circular issued on November 14, 1989, the State Personnel Office agreed to increase the number

⁶⁵China Family Planning Yearbook 1990, 316.

⁶⁶Li Xiangdong, 1990, 2.

⁶⁷This figure does not agree exactly with the total in Table 13 because they are from different sources and because this total excludes some subcategories. Yang Ming, 1989, 1.

of authorized personnel of the family planning committees at the prefecture level and at the county level by 8,000 administrative cadres.

Full-time family planning workers and staff may involve themselves in different tasks such as administration, IEC work, scientific research, contraceptive supplies distribution, or technical and medical service. In 1985, the number of administrative cadres in family planning work totaled 7,698, managerial cadres at the local level totaled 76,777 and cadres with special skills or classified as "professional" totaled 40,837.⁶⁸ By 1987, the number of cadres shouldering administrative responsibilities totaled 33,012, managerial cadres at the local level totaled 87,937 and cadres with special skills or classified as professional totaled 25,935.⁶⁹

According to a 1990 report in The Globe and Mail, China has 150,000 full-time birth control workers and one million part-time ones on the state payroll.⁷⁰ However, in one of her 1990 speeches, Madam Peng Peiyun, the Minister of China's State Family Planning Commission, reported that China had 180,000 full-time family planners at or below the county level.⁷¹

⁶⁸China Family Planning Yearbook 1986, 244-245.

⁶⁹China Family Planning Yearbook 1988, 70.

⁷⁰Wong, 1990, A9.

⁷¹Yu Changhong, 1990, 18.

The provinces have some discretion in deciding what proportions of family planning cadres should be allocated to what categories of tasks. For example, regulations for Jiangsu Province family planning guidance institutes (stations) stipulate that their personnel should be distributed as follows: administrative and odd-job personnel should account for 15 percent of the total, IEC personnel should make up 20 percent, and public health technicians at the county stations (including contraceptive supplies and devices managerial personnel) should comprise 65 percent.⁷²

b. Density of Family Planning Delivery

A passage in China's 1989 Public Health Yearbook indicated that up to December 1987, according to incomplete statistical data, 2,076 service stations at the county level (accounting for 89 percent of the total counties) were established in 28 provinces in China. The number of workers and staff totaled 22,600 persons. Among these, medical and technical personnel accounted for 62 percent; IEC personnel made up 14 percent and contraceptive supplies managerial personnel accounted for 9 percent.⁷³

By the end of the seventh five-year plan period (year-end 1990), the number of service stations at the county level and at the towns and townships below the county level totaled 2,203 and 25,345 respectively, accounting for 92 percent and 47 percent respectively of the targeted

⁷²Shen Zhihe, 1991, 2.

⁷³China Public Health Yearbook 1989, 157.

total service stations to be established.⁷⁴ In China's political structure, a township used to be a rural people's commune. The population of a township is approximately 19,000 and the population of a village averages close to 1,200.⁷⁵ The population in townships and villages, of course, varies from place to place. The prosperous townships and villages tend to be more populous.

In China's 1990 Family Planning Yearbook, a passage stated that according to 1989 incomplete data from 28 provinces, the number of service stations established at the county level totaled 2,251. Among the total employees, the medical, technical and contraceptive supplies managerial personnel accounted for 67 percent. This total of 2,251 county-level family planning service stations accounted for 93 percent of the targeted total service stations to be established in order to provide adequate service to rural counties. In addition, the number of professionals at the county level was reported to be 16,386 persons, though it was not clearly defined what are their specialties and what percentage they occupied in the total.⁷⁶ It was reported that China had invested 557 million yuan to build the 2,251 county-level family planning service clinics. The main functions of these county-level clinics include publicizing family planning, providing birth control techniques, and training family planning workers.⁷⁷ In one of her 1990

⁷⁴Song Yixia, 1991, 1.

⁷⁵Figures estimated by the U.S. Census Bureau based on the rural population reported in China's 1990 census and the number of township governments and village neighborhood committees reported in China Rural Statistical Yearbook 1990, 27.

⁷⁶China Family Planning Yearbook 1990, 134, 203.

⁷⁷Xinhua news in English, Nov. 9, 1990.

speeches, Madam Peng Peiyun of the State Family Planning Commission reported that family planning stations (or posts or rooms) were available in 90 percent of China's counties, 30 percent of China's towns/townships and a few villages.⁷⁸

The number of family planning service stations in towns, townships and villages is considered inadequate. This is a problem which has been addressed in many discussions. The Vice Mayor of Jixi Municipality in Heilongjiang Province pointed out this problem after a survey was done on family planning in the rural areas of the municipality. He stated, "Family planning organizations of towns, townships and villages cannot meet demand. Of the 25 towns and townships in the municipality, only 10 have their own family planning assistant. The overwhelming majority of the villages do not have full-time family planning cadres."⁷⁹ The same problem was stressed by the People's Daily in 1991. An editorial urged that "it is necessary to resolve to form a family planning work team at the grass-roots level characterized by a good state of mind and a correct workstyle and with professional knowledge and management ability; to speed up the establishment of family planning networks covering counties, townships, and villages; and to strengthen the numbers of family planning personnel of various villages and work groups so that there are always some people at the grass-roots level in charge of the various tasks related to family planning."⁸⁰

⁷⁸Yu Changhong, 1990, 18.

⁷⁹Wang Yuehua, 1990, 70.

⁸⁰Renmin ribao April 29 editorial, 1991, 31.

Family Planning Associations in the rural areas help to ameliorate the shortage of personnel and service stations at town, township, and village levels. The family planning program in China emphasizes outreach efforts. A goal of the program is to take family planning messages and supplies to the households. When there is a perceived need or official requirement for a woman to go to a family planning service station or to a hospital, she is often accompanied by family planning personnel or advocates. Many China Family Planning Association branches invite retired and on-the-job doctors in the township clinic to answer questions on hygiene, sex and heredity and health care for women and children. In addition, many CFPA members are good at consulting and persuasion. It was reported that by July 1991 the number of China Family Planning Association branches in the town/township and village levels totaled more than 600,000. In other words, the CFPA has been established in 90 percent of counties, 80 percent of towns/townships and 70 percent of villages in China.⁸¹ Therefore, the CFPA expands the effectiveness of the service stations at or below the county level.

Today in China more effort is focused on the local level. The leading cadres of the family planning program are required to spend time with the people at the grass-roots level (one-fourth of the year for state family planning cadres, one-third of the year for the provincial and prefectural family planning cadres and one-half of the year for the county family planning cadres). They are expected to go door-to-door talking to people, to understand their problems and to educate them.⁸²

⁸¹Yang Hongyu, 1991, 1.

⁸²Peng Peiyun, 1991, 8.

By 1988 the majority of town, township, and neighborhood family planning offices were staffed with one to two full-time family planning cadres.⁸³ Family planning tasks in most administrative villages and urban neighborhood committees are supervised by local administrative leaders. Sometimes, part-time personnel (who have other full-time jobs) are hired to shoulder specified family planning tasks. The grass-roots level of the hierarchy of the family planning structure is natural village teams. These are teams in the administrative villages grouped by their nature (such as households targeted for family planning or groups of women of childbearing age). Each team has a team motivator to promote the family planning activities. The actual door-to-door work is done by these motivators.⁸⁴ It is believed that a motivator for every 10 households in a village is most effective.⁸⁵

To guarantee the timely distribution of contraceptive supplies and devices requires an effective work force assigned to the task. It was reported that by the end of 1989, the number of workers and staff managing contraceptive supplies at the provincial level totaled 236 persons; at the prefectural level, 1,380 persons; at the county level, 4,102 persons; and at the township and village levels they totaled 1,029,000 persons.⁸⁶

⁸³Peng Zhiliang, 1990, 385.

⁸⁴China Family Planning Yearbook 1986, 58.

⁸⁵Family Planning Committee of Yi district in Zaozhuang City of Shandong Province, 1991, 2.

⁸⁶China Family Planning Yearbook 1990, 120.

Apparently China's leaders have become aware of the importance of having well-trained statisticians in the family planning staff. By the end of 1988 the number of statisticians (classified as administrative staff) at the provincial, prefectural and county level family planning committees is reported to be 4,424 persons. These statisticians work at the department, division or office of statistical regulation, policy stipulation, science and technology, or finance. The number of statisticians who work for family planning committees at the provincial level totaled 154 persons, an average of 5 persons per province; at the prefectural level, these totaled 735 persons, an average of 2 persons per prefecture; at the county level, these totaled 3,535 persons, averaging 1-2 persons per county.⁸⁷

Financial resources, service stations, and personnel are unevenly distributed and may be highly concentrated in certain localities. For example, in Family Planning Yearbook, 1988 it was reported that in 1987 there were more than 90,000 towns/townships in China. However, the number of full-time family planning cadres at the town/township level totaled only slightly more than 70,000 and only about 20 percent of the towns/townships were staffed with full-time cadres.⁸⁸

The PRC had 135,000 full-time family planning cadres in 1985, which rose to 148,000 by midyear 1987 (Table 13). Table 14 shows the much more detailed data available for 1986 on the distribution of full-time family planning cadres by province. The data show that out of

⁸⁷China Family Planning Yearbook 1990, 78.

⁸⁸Family Planning Yearbook 1988, 127.

Table 13: Estimated Wages for Full-time Family Planning Employees in China, 1985 and 1987 (In current yuan)

Job functional structure	1985	
	Number of employees	Estimated wage bill per year
Administrative cadres		
Leading cadres	1,853	6,893,160
Administrative cadres in general	5,845	11,923,800
Specialist cadres	40,837	98,008,800
Rural, town, urban neighborhood full-time cadres	76,777	96,739,020
Other cadres	9,359	12,690,804
Total	134,671	226,255,584

Job functional structure	1987	
	Number of employees	Estimated wage bill per year
Administrative cadres		
Ministry and committee level	5	21,300
Office and bureau level	145	400,200
Department level	1,968	4,014,720
Other administrative cadres	30,894	35,960,616
Specialist cadres	25,935	62,244,000
Rural, town, urban neighborhood full-time cadres	87,937	110,800,620
Other cadres	900	1,220,400
Total	147,784	214,661,856

Notes: Since we do not have clear information on the ranking of the administrative cadres and skill levels of specialist cadres, we arbitrarily assign amounts for their basic wages. Going through various pay scales for different job descriptions, for 1985 and 1987, we use 355 yuan, 310 yuan, 230 yuan, 170 yuan, and 97 yuan per month for the administrative cadres at various levels, 200 yuan per month for specialist cadres, 105 yuan per month for rural, town, urban neighborhood full-time cadres and 113 yuan per month for other cadres.

Sources: China Family Planning Yearbook 1986, 244-245.
China Family Planning Yearbook 1988, 70.
Cao Xu et al., 1987, 568-597.

Table 14: Total Full-time Family Planning Cadres and Estimated Annual Wages
(Number of cadres as reported in 1986)

Province	Total full-time family planning cadres	Family planning committees, county level and above	Estimated wages per year	Factory, mining, enterprises and undertakings	Estimated wages per year	Village and neighborhood	Estimated wages per year	Military	Estimated wages per year	Total wages per year
Beijing	1,840	252	574,560	1,015	2,314,200	573	1,168,920			4,057,680
Tianjin	2,939	285	649,800	1,957	4,461,960	697	1,421,880			6,533,640
Hebei	11,664	3,639	8,296,920	2,646	6,032,880	5,379	10,973,160			25,302,960
Shanxi	4,980	1,419	3,235,320	245	558,600	3,316	6,764,640			10,558,560
Inner Mongolia	6,329	1,659	3,782,520	2,405	5,483,400	2,265	4,620,600			13,886,520
Liaoning	8,357	1,578	3,597,840	4,343	9,902,040	2,436	4,969,440			18,469,320
Jilin	2,925	798	1,819,440	870	1,983,600	1,257	2,564,280			6,367,320
Heilongjiang	4,733	1,340	3,055,200	1,952	4,450,560	1,441	2,939,640			10,445,400
Shanghai	860	150	342,000	349	795,720	361	736,440			1,874,160
Jiangsu	3,810	1,293	2,948,040			2,517	5,134,680			8,082,720
Zhejiang	5,148	1,208	2,754,240			3,940	8,037,600			10,791,840
Anhui	5,005	1,568	3,575,040	803	1,830,840	2,634	5,373,360			10,779,240
Fujian	1,798	988	2,252,640			810	1,652,400			3,905,040
Jiangxi	5,229	1,360	3,100,800	1,597	3,641,160	2,272	4,634,880			11,376,840
Shandong	7,179	2,172	4,952,160	1,193	2,720,040	3,814	7,780,560			15,452,760
Henan	9,878	2,783	6,345,240	4,420	10,077,600	2,675	5,457,000			21,879,840
Hubei	5,000	1,450	3,306,000			3,550	7,242,000			10,548,000
Hunan	8,000	2,000	4,560,000	2,000	4,560,000	4,000	8,160,000			17,280,000
Guangdong	6,355	1,649	3,759,720	1,841	4,197,480	2,865	5,844,600			13,801,800
Guangxi	3,060	1,008	2,298,240	121	275,880	1,931	3,939,240			6,513,360
Sichuan	13,675	3,030	6,908,400			10,645	21,715,800			28,624,200
Guizhou	5,014	1,178	2,685,840	265	604,200	3,571	7,284,840			10,574,880
Yunnan	7,951	1,553	3,540,840	997	2,273,160	5,401	11,018,040			16,832,040
Tibet	28	28	63,840							63,840
Shaanxi	5,375	1,089	2,482,920	1,367	3,116,760	2,919	5,954,760			11,554,440
Gansu	4,883	982	2,238,960	2,139	4,876,920	1,762	3,594,480			10,710,360
Qinghai	1,517	205	467,400	1,054	2,403,120	258	526,320			3,396,840
Mingxia	599	183	417,240	116	264,480	300	612,000			1,293,720
Xinjiang	1,592	655	1,493,400			937	1,911,480			3,404,880
Subtotal	145,723	37,502	85,504,560	33,695	76,824,600	74,526	152,033,040			314,362,200
Directly under central	20	20	45,600							45,600
Central government	85	85	193,800							193,800
People's Liberation Army	1,527							1,527	3,774,744	3,774,744
Military police	751							751	1,856,472	1,856,472
State F.P. Commission	308	308	702,240							702,240
Total	146,887	37,915	86,446,200	33,695	76,824,600	74,526	152,033,040	2,278	5,631,216	320,935,056

Notes: Since we do not know the amount of allowance and subsidy, we use the pay scales according to Labor and wage (1987) Document #24, (1985) Document #31 and Central Circular (1985) Document #9: top basic wage for state cadres = 190 yuan per month; medium basic wage for enterprise cadres = 190 yuan per month; top basic wage for county/village administrative staff = 170 yuan per month; top basic wage for military cadres = 206 yuan per month.

Sources: China Family Planning Yearbook 1986, 669-670; Cao Xu et al., 1987, 568-597.

China's 147,000 full-time family planning cadres, only 308 worked at the national level for the State Family Planning Commission, 105 more worked at the central level in other units, 2,278 worked for the military, 38,000 ran the program at the provincial or county or municipal levels, 34,000 worked for industrial and related enterprises, and 75,000 worked in villages and neighborhoods. These figures do not include the part-time family planning workers and the unpaid workers organized by the China Family Planning Association, but may include some or all of the full-time paid cadres working for the CFPA.

c. Remuneration for Family Planning Workers and Staff

Wages for the workers and staff of the family planning departments include wages and bonuses for full-time family planning personnel, fees for part-time family planning personnel, and family planning service fees. Wages and benefits for the full-time family planning cadres of villages in the rural areas and of neighborhoods in the urban areas are supposed to be covered by the family planning budgetary expenditures.

According to the 1983 regulation, family planning departments at county or higher levels are regarded as administrative organizations. Personnel in these organizations are included in the billets for administrative personnel. Expenses incurred by these organizations are covered by the budget allocated for administrative operational expenses instead of family planning operational expenses.

Economic units in China are required to pay the salaries of family planning cadres assigned to their work force. According to regulations, most factories, mines, schools, people's groups, enterprises and military organizations have established offices staffed with full-time family planning workers or personnel with specially designated responsibilities. Many medical schools and hospitals even establish family planning scientific research institutes. By 1987, there were 13 such institutes. Enterprises with a certain number of workers and staff are required to support certain numbers of full-time family planning personnel. For example, in Chongqing City, Sichuan Province, enterprise units generally have established family planning offices. As a rule, enterprises with more than 1,000 employees should establish a family planning office, which is an independent second-level office. Enterprises with more than 500 staffers should support one family planning cadre; enterprises with more than 1,000 staffers should support two to five cadres; enterprises with more than 5,000 employees should support five to seven cadres; and enterprises with over 10,000 staffers should support no fewer than seven family planning cadres.⁸⁹ Enterprises are required to shoulder the wages and benefits for these workers. For another example, Anshan Steel and Iron Company has a full-time family planning team including six assistant statisticians, one assistant doctor and two doctors in charge.⁹⁰

In China, the real problem area of family planning funding lies at the grass-roots level. Family planning workers at the town/township level and village level in particular often complain about their low pay. The following two examples illustrate this pattern. First, Hou

⁸⁹Family Planning Committee of Chongqing City, 1991, 19.

⁹⁰Su Xiaogang, 1988, 1.

Zhiying has been a cadre working on family planning in Shandong's Linyi County for more than 20 years. Today, she is still earning only 21 yuan a month. In comparison, the average family planning cadre in the townships and towns nationwide was earning 62.8 yuan in 1987, and even then, that wage level was below the national average for cadres. Second, in some localities, such as Shandong's Yishui County, family planning cadres do not have workers' insurance or health care, nor do they receive bonuses or subsidies.⁹¹ The Deputy Director of the State Family Planning Commission, Mr. Chang Chongxuan in his March 8, 1986 speech pointed out that "family planning cadres at the village level (including the neighborhood committee) should be paid reasonable fixed wages or be compensated for the work time they lose while working in the family planning program. In any case, they should be paid reasonably. In addition, each locality should come up with an appropriate way to handle the payment in accordance with local conditions."⁹²

Indeed, various methods and pay scales are practiced in different localities. Following are some examples. (1) In Fujian Province, the family planning cadres at the town/township level are paid at step one of the floating wage scale (which means that part of the wage and bonus of the cadres will be determined by their periodic performance evaluation).⁹³ (2) Shimen County in Hunan Province pays its family planning workers as administrative personnel plus 9 yuan per month for the family planning post allowance. Those who have been in a family

⁹¹Chu Hsiaoyang, 1991, 80-81.

⁹²China Family Planning Yearbook 1987, 23.

⁹³Zhang Haihong et al., 1989, 1.

planning position for a consecutive five years with outstanding performance are paid at the scale of deputy village director.⁹⁴ (3) Lu County in Sichuan also pays its full-time village family planning workers step one of the floating wage scale plus some equipment such as a bicycle, raincoat, etc. equivalent to 30 yuan worth of labor insurance per year.⁹⁵ (4) Yuxi City in Yunnan pays the town/township family planning workers 30 to 60 yuan per person per month plus an 8 yuan allowance for operational expenses. Any additional payments are subsidized by the revenue of the town/township enterprises. Meanwhile, the contraceptive supplies distributor in the town/township family planning system is paid 30 yuan per month. This expense is covered by the budgetary revenue of the city government. In addition, some contraceptive supplies delivery persons in the towns and villages are subsidized 5 to 8 yuan per month. The expense is covered by the enterprises run by the townships or villages.⁹⁶ (5) In Shandong, more than 10,000 persons receive 15 yuan per month for the family planning post allowance. More than 2,700 persons were hired as family planning specialists and professionals.⁹⁷ (6) From 1985 in Sichuan, the city government of Chongqing City agreed that cadres at the county and lower levels would be paid a floating post allowance. From 1990, the floating post allowance was changed into a post allowance. Each part-time family planning staff in the post got a 15 yuan monthly allowance.⁹⁸ (7) In 1989 in the Huayuan Road Neighborhood

⁹⁴Peng Yueli, 1989, 2.

⁹⁵Wei Junshi and Kang Jiang, 1988, 2.

⁹⁶Unpublished document from Yunnan Provincial Family Planning Committee issued on July 3, 1986.

⁹⁷Sun Nianjiu, 1991, 1.

⁹⁸Family Planning Committee of Chongqing City, 1991, 20.

Committee of Beijing's Haidian District, certain elderly women who made up the patrol party to check on the birth control, menstrual, and pregnancy status of their neighbors were paid 40 yuan a month.⁹⁹

The above examples illustrate how complicated the methods and sources of wage payments can become. We can best estimate the expenditures for wage payments by using the total reported figures for family planning staff at all levels and then multiply them by the standard pay scale for all positions for the years 1985-1987 (see Tables 13 and 14).

Since many family planning workers and staff are paid on the floating wage scale, their monthly income (wage and bonus) is determined by their performance evaluation. That is to say, whether or not there are births outside the local official birth plan in their assigned areas affects their income. In the rich areas, most workers have other sources of income so they are less concerned about their wage and bonus from family planning work. Furthermore, well-off peasants in the rich areas can afford to bribe family planning workers in order to obtain permission to have births outside the plan. On the other hand, the only income for family planning cadres in the poor areas may be their wages and bonus. The threat of a cut in their income if they do not meet the required family planning targets might motivate them to attempt strong measures to prevent unapproved births.¹⁰⁰

⁹⁹Chu Hsiaoyang, 1991, 82.

¹⁰⁰Chu Hsiaoyang, 1991, pp. 85-86.

C. Contraceptive Supplies

Under the "contracted responsibility system" of contraceptive supplies and devices, the managerial cadres and staff at the contraceptive supplies and devices distribution stations are rewarded bonuses at the end of the year if they have guaranteed the public timely supplies of contraceptives and economized on expenditures. The cadres and staff are thus encouraged to control costs and provide better distribution of supplies. The people need to obtain the contraceptive supplies and devices in a timely manner so they can avoid accidental pregnancy. The system is said to be well received by family planning committees and offices at all levels as well as by the public and has proved to be very effective.

In January 1974, the Ministry of Commerce, the Ministry of Public Health, the Ministry of Chemical Industry, and the Family Planning Leading Team of the State Council jointly issued a circular to announce that 14 various kinds of contraceptive pills and supplies would be provided free of charge and door to door delivery of contraceptive supplies would be provided. As a result, 90 percent of the contraceptive supplies and devices were provided to the public via door to door service and 10 percent were given out through various health station clinics, markets or drugstores. According to a joint circular issued in 1980, to cover their management fees the commercial departments may charge the family planning departments 2 percent of the total cost of contraceptive supplies and devices purchased and delivered.¹⁰¹

¹⁰¹For details see Historical Experience of New China's Preventive Medicine, 1990, 327; China Family Planning Yearbook 1986, 21; Office of Contraceptive Supplies and Devices, State Family Planning Commission, 1989, 2.

The system of "overall funds rationing and price-settled allocation" was tried out in 1982 and 1985 and improved in 1986. The main purpose of the system is to more effectively and economically manage contraceptive supplies and devices. A contract is signed between the State Family Planning Commission and provincial family planning committees at all levels. Under this system, the State Family Planning Commission calculates and approves the contracted base amount for expenditures on contraceptive supplies and devices for each participating province. Such provinces are thus delegated the financial responsibility for economizing on the cost of contraceptive supplies and devices. A new base for calculating contracted expenditures of contraceptive supplies and devices was stipulated in 1986 and it was fixed for a period of three years. All provinces which adopted the contracted responsibility system after 1986 applied the new contracted base for their contraceptive supplies and devices; provinces adopting the system before 1985 continued to use the old base. The base of contracted expenditures on contraceptive supplies and devices was adjusted in 1989 and the base was fixed for a period of three years beginning in 1990 (more detailed explanation of the calculation of base amount and the components of the contracted expenditures on contraceptive supplies and devices is in Appendix E). By the end of 1989, all of the provinces except Tibet had adopted the new system of contract and responsibility.¹⁰²

In order to reduce transfer links, speed up the allocation and guarantee timely supply of condoms to users, a system was adopted for direct allocation of condoms from manufacturers

¹⁰²For details see China Family Planning Yearbook 1986, 45-49; China Family Planning Yearbook 1990, 120-122.

to the family planning departments at the prefectural and municipal levels, instead of going through commercial departments. In August 1988, the State Family Planning Commission and the State Pharmaceutical Administration jointly published "The Circular on Overall Direct Allocation of Contraceptive Pills and Devices" calling for initiation of direct allocation of all kinds of contraceptive pills and devices starting in 1989 in order to link manufacturing and sales together.¹⁰³

China has developed a vast distribution network to get contraceptive supplies and devices to the users. The National Center for Contraceptive Supplies and Devices, which is in charge of the eight distribution centers in China, purchased contraceptive supplies and devices worth 98 million yuan and transferred from warehouses into distribution channels contraceptive supplies and devices worth 90 million yuan for the entire nation in 1990.¹⁰⁴ In the urban and rural areas, stations and warehouses were established to distribute and store pills and other supplies. According to statistical data in the 1990 Family Planning Yearbook, the number of personnel involved in managing contraceptive supplies and devices total more than one million (see Table 15 for details). These personnel are not included in the data on full-time family planning cadres.

¹⁰³Public Health in the People's Republic of China 1989, 78.

¹⁰⁴Zhang Hong, 1991, 1.

Table 15: Basic Situation of Contraceptive Supplies and Devices Control Stations in China
(As of Year-end 1989)

Items	Unit	Total	Provincial level	Prefecture level	County level	Township village level
Authorized personnel	person	4,573	272	1,352	2,949	
Actual	person	1,034,718	236	1,380	4,102	1,029,000
Building space	square meter	237,083	14,549	86,570	135,964	
Built space	square meter	196,817	10,049	67,168	119,600	
Warehouse	square meter	87,670	6,400	38,797	42,473	
Under construction	square meter	40,266	4,500	19,402	16,364	
Vehicles	each	419	44	256	119	
Vans	each	145	18	76	51	
Big truck	each	61	13	47	1	
Mini truck	each	213	13	133	67	
Other equipment	each	1,160	136	371	653	
Forklift truck	each	4	2	2	0	
Wheelbarrow	each	232	39	96	97	
Air conditioning	each	874	65	254	555	
Computers	each	50	30	19	1	

Source: China Family Planning Yearbook 1990, 123.

Most contraceptive supplies used in China are produced in the country. In 1989, China produced 2.9 billion oral pills, 834 million condoms and 42 million IUDs.¹⁰⁵

From 1979 to 1989, the United Nations Population Fund (UNFPA) invested altogether US\$21 million in assisting the production of contraceptive supplies. The amount mainly was spent on purchasing modern production machinery, introducing advanced technology, and training family planning workers. The assistance increased the quantity of production as well as improved the quality of contraceptives. It provided high efficiency and safer contraceptive supplies and devices for the family planning program in China. Factories receiving assistance from UNFPA have the capability to meet 20 percent of the nation's demand for contraceptive supplies.¹⁰⁶ A specific example is the Second Pharmaceutical Factory in Nanjing which, with assistance from UNFPA, has reached international quality standards. The total investment in this factory was 13.7 million yuan, among which US\$2 million was allocated from UNFPA to import advanced machinery from the United States, Great Britain, Italy, Japan and Germany. Currently this factory is able to produce 1 billion oral contraceptive pills per year, which is enough to supply the annual dosage for 3.5 million women of childbearing age.¹⁰⁷ This accounts for almost 40 percent of the 9.2 million women who used oral pills and injections in 1989.¹⁰⁸

¹⁰⁵China Public Health Yearbook 1990, 159.

¹⁰⁶Ye Liqi, 1991, 6.

¹⁰⁷Chen Naian and Zhang Jian, 1989, 1.

¹⁰⁸China Family Planning Yearbook 1990, 390.

D. Costs and Provision of Birth Control Surgery

Those contraceptive operations that can be performed at county family planning clinics are carried out there. By the end of 1989, of the 2,251 county-level family planning service stations in China, 798 were equipped to carry out all kinds of birth control surgery, 171 could do 70 percent of the required operations, 292 could perform 50 percent, and 418 could carry out 30 percent. When a clinic can perform only some of the contraceptive operations, these are likely to be the simplest and safest procedures, namely IUD insertions, legal IUD removals, and first-trimester abortions using vacuum aspiration. Table 16 shows the provincial distribution of fully equipped county family planning clinics; in most provinces there is only one such clinic per one or two million population. In that case, most birth control operations would still be carried out in hospitals.

The contracted responsibility system was adopted for contraceptive surgery as well as contraceptive supplies. Fees for registration, examination, medicine, hospitalization, and post-surgical treatment when people receive various kinds of birth control surgery (IUD, vasectomy, tubal ligation and abortion) are covered by the family planning operational expenditure budget. Fees for treatment of complications following birth control surgery are also covered by the family planning operational expenses upon the determination of a birth control surgery technology advisory team above the county level.

Table 16: Well-Equipped County Level Family Planning
Service Stations in China, 1989

Province	Number of stations	Total number of counties in the provinces
Beijing	4	8
Tianjin	2	5
Hebei	63	128
Shanxi	34	93
Inner Mongolia	26	72
Liaoning	41	38
Jilin	14	26
Heilongjiang	29	54
Shanghai	4	9
Jiangsu	29	51
Zhejiang	29	52
Anhui	26	63
Fujian	27	56
Jiangxi	29	75
Shandong	43	78
Henan	44	104
Hubei	27	50
Hunan	33	78
Guangdong	38	76
Guangxi	29	76
Hainan	5	16
Sichuan	96	169
Guizhou	22	75
Yunnan	20	114
Tibet		76
Shaanxi	30	86
Gansu	28	67
Qinghai	6	37
Ningxia	7	16
Xinjiang	13	71
Total	798	1,919

	Number	Percent of the total
Total of county service stations	2,251	100
Stations with 100% capability	798	35
Stations with 70% capability	171	8
Stations with 50% capability	292	13
Stations with 30% capability	418	19
Stations not accounted for	572	25

Sources: China Family Planning Yearbook 1990, 134, 146.
China Statistical Yearbook 1990, 3.

On the other hand, according to the 1983 regulation, expenses for birth control surgery and treatment of post-surgical sequelae for the staff of state administrative units, political parties and groups, and people's organizations should be covered by "operational expenses for free medical care;" for workers and staff, and their direct dependents, of state-owned and urban collective enterprises, these operations and treatments should be covered by the enterprises' "welfare funds for workers and staff;" in the military, expenses for birth control surgery and treatment of post-surgical sequelae received by officers and other military personnel, workers and staff and their dependents should be charged as "national defense expenses." These regulations mean that the health coverage provided for urban, official, and military workers is required to include payment for the full cost of birth control operations and follow-up.

Because a large portion of the expenses for birth control surgery in China is covered by the system of free medical care, many hospitals and clinics tend to overcharge the medical reimbursement system for these birth control operations. For example, some areas in Shanxi Province reportedly charged 40 yuan, 50 yuan or "even 80 yuan" for surgical sterilization. The medical coverage scheme was also billed for extra charges for various items which patients might not have received at all in their operation.¹⁰⁹ Madam Peng Peiyun of the State Family Planning Commission pleaded in her October 20, 1988 speech that the charge for contraceptive surgery should cover only the cost and that material prices departments should provide supervision to prevent wanton charges for the surgery.¹¹⁰

¹⁰⁹Fan Zhigang and Zhang Xiaosen, 1989, 1.

¹¹⁰Peng Peiyun, 1990, 1.

Some areas in Yunnan, Guizhou, and Sichuan provinces report that they are overburdened by the increasing expenditures for birth control surgery. Since 1986, Guizhou has practiced the contracted responsibility system and used the poll method to compile its base for surgery reimbursement. Due to the inflation of prices and hospital charges, there is an 8.08 million yuan difference between the actual amount required for reimbursing birth control surgeries and the smaller amount allocated by the contracted responsibility system in 1989. In Yunnan Province for five years in the late 1980s, family planning operational expenditures grew 29 percent a year on average. However, due to the rising cost of each surgery, Yunnan still could not keep up with the increased costs of the birth control operations.¹¹¹ Therefore, Yunnan's family planning department fell heavily in debt to the public health department every year. In addition, it was reported that many provinces owe their public health departments up to 10 million yuan for tubal ligation surgery fees.¹¹²

The above-mentioned examples illustrate the need for improved financial management and a better system for covering the actual expenditures occurring from birth control surgery. These reports also reveal that provincial and lower level governments are shouldering the majority of the expenditures. As Madam Peng Peiyun pointed out in her 1989 report,

Insufficient funding, especially the insufficient funding for birth control surgery expenses, has become a serious obstacle in promoting family planning. Party and political leaders at all levels should actively help the family planning departments solve this problem. In accordance with the current financial management system, budgetary expenditures mainly rely on local financial departments at all levels. At the same time, the central

¹¹¹Wan Qinghua, 1989, 1.

¹¹²Zhu Li, 1989, 39.

government will subsidize the expenditures as it sees fit....Family planning departments at all levels should vigorously reflect the relevant situation to the local party and political leaders as well as to the financial departments and strive by every means to obtain more of the budgetary family planning expenditure. These departments also have to control charges for birth control surgery. They should strictly forbid the unreasonable increase of prices or unreasonable charges for services.¹¹³

Total expenditures for birth control surgeries and supplies have not been reported, so the data in Table 17 reflect our estimates, based on the assumptions given.

E. Bonus for One-child Certificate and One-child Health Care

In order to encourage each couple to stop childbearing after one child, the Chinese government has set up incentive programs to reward couples who sign a pledge to have only one child. The rewards include one-child welfare subsidies, one-time bonuses for couples signing up for the "one-child family" program, free medical care, free nursery and kindergarten for the only child, and deduction of tuition fees for the only child's elementary and high school education. While certain rewards are suggested or mandated, the actual spending on rewards depends on the capacity of each locality or unit to pay for the benefits. Total expenditures nationwide are estimated in Table 18.

¹¹³China Family Planning Yearbook 1990, 34.

Table 17: China, Estimated Expenditures for Birth Control Measures, 1980-1989
(In current yuan)

Year	Current users of contraceptives	Estimated expenditures for continuing users of IUDs	Cost of IUD insertions	Cost of vasectomies performed	Cost of tubectomies performed	Cost of abortions performed	Cost of condom supplies	Cost of pills & spermicide supplies	Estimated total
1980	100,740,000	15,127,671	17,219,420	20,452,620	46,054,894	142,914,660			
1981	104,993,605	14,585,457	17,637,436	9,742,140	21,223,444	130,454,175	17,903,952	25,287,942	236,834,546
1982	114,048,641	14,776,566	26,625,887	18,464,505	59,438,535	186,294,945	20,200,104	28,091,601	353,892,143
1983	124,525,921	13,765,179	35,080,008	65,343,915	259,186,203	215,577,645	15,387,882	20,933,043	625,273,875
1984	132,482,469	18,541,518	27,344,917	19,399,290	100,845,906	133,352,100	19,279,992	23,397,327	342,161,050
1985	139,235,627	20,262,178	28,124,717	8,633,460	53,658,701	163,973,475	26,795,448	29,296,650	330,744,629
1986	145,889,724	20,779,583	36,730,572	15,462,405	80,516,534	173,680,695	32,145,672	31,519,047	390,834,508
1987	154,665,987	21,436,012	49,642,455	25,998,435	114,524,342	155,917,965	35,722,056	32,120,448	435,361,714
1988	166,337,000	23,709,807	45,510,932	15,932,415	106,912,677	190,137,540	39,900,000	33,258,000	455,361,371
1989	172,693,000	23,605,049	58,439,762	36,408,645	189,092,418	158,503,665	39,689,850	32,137,143	537,876,533

Notes: Figures for current users of contraceptives, users of condoms, pills and spermicide supplies are gathered from various family planning yearbooks. Numbers for users having IUD insertions, vasectomies, tubal ligations, and abortions performed are derived from Table 5. Using the new contracted base stipulated for 1986-1988, we use 0.18 yuan to estimate annual expenditures on continuing users, 6.00 yuan for cost of condom supplies per year per couple, and 3.00 yuan for the annual cost of pills and spermicide supplies per couple using these methods. Based on the estimation given by the Population Crisis Committee for China, US\$ 8.00 is used to estimate the cost of each tubal ligation, and US \$1.00 is used for the cost of IUD insertions. The US dollars were converted to Chinese yuan by using the conversion rate of that year. Based on the standard charge stipulated in the Yun Cheng District of Shanxi Province, we use 15 yuan to estimate the cost of each vasectomy and abortion performed.

Sources: China Family Planning Yearbook 1986, 384, 394, 408, 417, 428; China Family Planning Yearbook 1987, 397;
China Family Planning Yearbook 1988, 291; China Family Planning Yearbook 1990, 123, 390;
Access to Affordable Contraception, 1991 Report on World Progress Towards Population Stabilization,
a chart published by Population Crisis Committee, 1991; Table 5;
Fan Zhigang and Zhang Xiaosen, "Kaotuo jieyu jishu fuwu zhong de gaige xinlu" (To open up
a new reformed way for birth control technology service), Zhongguo renkou bao (China Population), July 10, 1989, 1.

Table 18: One-child Incentive Program, 1979-1989

Year	Current users of contraceptives	Number of couples holding one-child certificates	Number of couples who received one-child certificates that year	One-time bonus for one-child pledge (40 yuan per couple)	Single child health care expenditures	Reported state-owned enterprises one-child incentive expenses
1979	93,586,000	6,101,000	6,101,000	244,040,000	366,060,000	
1980	100,740,000	11,433,000	5,332,000	213,280,000	685,980,000	210,000,000
1981	104,993,605	14,481,166	3,048,166	121,926,640	868,869,960	270,000,000
1982	114,048,641	19,529,612	5,048,446	201,937,840	1,171,776,720	400,000,000
1983	124,525,921	24,767,858	5,238,246	209,529,840	1,486,071,480	550,000,000
1984	132,482,469	28,174,429	3,406,571	136,262,840	1,690,465,740	550,000,000
1985	139,235,627	29,445,965	1,271,536	50,861,440	1,766,757,900	610,000,000
1986	145,889,724	30,508,417	1,062,452	42,498,080	1,830,505,020	700,000,000
1987	154,665,987	32,304,790	1,796,373	71,854,920	1,938,287,400	800,000,000
1988	166,337,498	34,430,315	2,125,525	85,021,000	2,065,818,900	940,000,000
1989	172,693,228	35,467,087	1,036,772	41,470,880	2,128,025,220	1,070,000,000

Notes: The figure for "Number of couples who received one-child certificate that year" is really the net increase in the total number of certificate-holders. Net increase = new recipients of certificates minus couples who have a second child and thus lose the certificate, minus couples with one-child certificates who age out of childbearing ages.

The one-time bonus for couples making the one-child pledge was reported to range from 30 to 50 yuan in different provinces. Therefore we have assumed the average is 40 yuan per couple. The health care subsidy for the child of couples holding one-child certificates is about 5 yuan per month.

The right-hand column shows the escalation in one-child incentive expenses met by China's state-owned enterprises. These are a portion of the total nationwide expenditures on one-child bonuses, single child health care expenditures, and other one-child incentives.

Sources: Table 14;

China Family Planning Yearbook 1986, 375, 378, 381, 388, 405, 416, 426;

China Family Planning Yearbook 1987, 402;

China Family Planning Yearbook 1988, 287;

China Family Planning Yearbook 1990, 386;

Gao Ersheng et al., 1990, 273;

China Labor Wages Statistical Yearbook 1990, 402-403.

First, a couple who applies for and is issued the one-child certificate is reportedly eligible for a one-time bonus. The bonus is reportedly between 30 and 50 yuan and varies from province to province.

Reported regulations from many provinces say that the only child should receive a health care allowance from the day the child is born till the child reaches 14 years of age. The allowance usually runs from 5 yuan to 7 yuan per month (some areas pay only 2.5 yuan per month).

When the child is ready to go to school, the only child is eligible for free kindergarten, elementary school and junior high school. Parents of the only child also expect to receive a better housing assignment and better retirement terms in an urban area and better land allocation in the rural area.¹¹⁴

According to the 1983 regulation, the spouses' working units will shoulder 50 percent of the burden of the one-child health care and incentive awards. Couples who have their own business are to obtain their award from the funds of the individual business association allocated from the funds of individual industry and commerce management. For the single child's education, the work units, the Ministry of Education, the Ministry of Social Welfare and township and town committees jointly shoulder the expenses.

¹¹⁴For details see China Family Planning Yearbook 1988, 22-47; Gao et al. 1990, 273.

Paying each single child 5 yuan per month for health care until the child reaches 14 years of age creates a snowball effect (Table 18). The available data on the expenditures allocated for workers and staff working at state-owned enterprises for the one-child allowance and health care indicate that the totals escalated from 0.21 billion yuan in 1980 to 1.07 billion in 1989.¹¹⁵ Based on the assumption that each couple receives a one time bonus of 40 yuan for obtaining the one-child certificate and each single child gets 5 yuan per month till the age of 14, the number of couples obtaining the one-child certificate each year can be used to get a rough idea how much the one-child incentive program cost each year from 1979 to 1989 (see Table 18). The figures in Table 18 indicate the large amount of money required for this incentive program.

To meet the rest of the incentive program, state-owned and urban collective enterprises draw their resources from enterprise welfare funds and retained profits. When they run into difficulties, they can, upon the approval of the finance department, obtain supplementary funds by using part of the enterprise management fees. Administrative and operational units such as schools and organizations draw resources from the welfare funds of their workers and staff. When they face difficulties meeting the demand, they are allowed to use money budgeted for the administrative expense or operational expense of the unit.

On the other hand, rural residents receive their one-child benefits from local public welfare funds. As an alternative, if welfare funds are inadequate, they may be allocated more

¹¹⁵China Labor and Wages Statistical Yearbook 1990, 402-403.

contract farm land to till or the required deliveries of crops they grow may be reduced. Hardship areas (independent basic accounting units in which the annual per capita income is less than 50 yuan) are subsidized 50 percent of the cost by the state upon the approval of the county government. This 50 percent subsidy is shouldered evenly by the central and local governments.¹¹⁶

Working units and local governments are assuming the major responsibility for supporting the one-child health care program. According to data provided by Shanghai county, the collective units are shouldering more than 90 percent of the cost. Another obvious fact is that costs relevant to one-child benefits (health care, nursery, one-child certificate awards and tuition exemptions) account for a large proportion of the total cost of family planning in advanced areas where high proportions of couples stop at one child.

In addition, the work units are absorbing the costs for incentives and subsidies given to the recipients of birth control measures. This includes expenses paid for sick leave taken by birth control surgery recipients, expenses for extended marriage and maternity leaves as bonuses for late marriage and delayed pregnancy, and expenses for special nutrition allowances for

¹¹⁶For details see China Family Planning Yearbook 1986, 35. The part shouldered by the central government is treated as a special budgetary allocation for that particular fiscal year. The allocated amount for subsidy is computed by the State Family Planning Commission and the Ministry of Finance in accordance with the number of one-child certificates obtained by the year-end of the previous year in the hardship areas multiplied by the average standard amount for the allowance. Each province, municipality, and autonomous region then allocates the sum (the standard allowance of that locality plus the amount of subsidy from finance departments at all levels) to the county level. The family planning department at the county level then takes the responsibility to allocate the amount to the recipient.

recipients of sterilization, IUD, and those women with IUDs who become pregnant and undergo abortions. One could argue that the one-child benefits are just another form of welfare for the workers and staff to make up for their low wages.¹¹⁷ Therefore, we could classify all these one-child benefits as expenditures of China's family planning program or, alternatively, as societal transfer payments to the single-child families.

Women employees are eligible for generous maternity and child care benefits under the provisions of the Women's Protection Law of September 1988, especially if they have complied with late marriage, late birth, and one-child policies. The benefits (which include between six months and three years of paid maternity leave) are designed to provide additional incentives to women workers of childbearing age to abide by family planning policies. Ironically, now that employers may exercise greater freedom when hiring employees, the law encourages discrimination against women in the job market. For the profit motivated employer, the high cost of maternity leave and child care benefits argues in favor of hiring men rather than women.¹¹⁸

Realizing the heavy burden shouldered by the enterprises, the Chinese government has introduced insurance arrangements specially designed to cover the maternity cost of women

¹¹⁷By 1990, the total amount spent by state-owned enterprises for the one-time bonus for one-child pledges constituted about 3 percent of the total expenditures for worker and staff benefits. This was only a small portion of single child benefits, however. China Labor and Wages Statistical Yearbook 1990, 402-403.

¹¹⁸Foreign Labor Trends, China, 1989-1990, 9.

workers. Where this insurance system operates, each enterprise is required to contribute 20 yuan for each worker each month. After a woman gives birth, the enterprise receives 1,000 yuan from the insurance fund to cover maternity fees. Each woman gets birth compensation fees only once in a lifetime as the country encourages one couple to have only one child.

The system was first introduced by Nantong city in Jiangsu Province in September 1988 and it has now spread to 41 cities and counties in 11 provinces. Shanghai, Fujian, Sichuan, Hebei and Heilongjiang as well as Qingdao in Shandong Province and Dalian in Liaoning are mapping out plans to implement the program.¹¹⁹

F. Penalties for Unauthorized Children

Those who choose not to abide by the one-child policy and who have unauthorized children not only forfeit potential benefits but also are penalized. Even though penalties vary from one locality to another, they can be generalized as follows:

Couples (no matter whether they are state workers and staff, urban residents, or rural residents) with one unauthorized child (including adopting another's child or giving their own child up for adoption) can be penalized 10 percent of their monthly wages for a consecutive seven years; for two unauthorized children, the penalty can be 20 percent of their monthly

¹¹⁹Xinhua English News, June 26, 1991.

wages for a consecutive fourteen years.¹²⁰ Provincial regulations sometimes vary in the amounts of the penalties.

For couples working in state organizations, neither husband nor wife can apply for a day care subsidy or hardship subsidy, nor can they receive pay increases or quarterly and annual bonuses for three years; they will not be promoted either. In addition, the wife will not enjoy any benefits (pay and other) during her maternity leave. Couples who have received one-child certificates not only have to return the certificates but also have to reimburse the one-child health care allowances and awards they have received.

For couples who have three children, besides the above-mentioned penalties, either the husband or the wife is strongly encouraged or required to undergo sterilization. There are some provinces and localities, particularly minority nationality areas, where this does not apply.

Those couples who are permitted to have a second child must return the one-child certificate. They stop collecting all benefits relevant to the one-child program beginning from the month when they obtain approval to give birth to a second child.¹²¹

¹²⁰China Family Planning Yearbook 1988, 36-37.

¹²¹For details see China Family Planning Yearbook 1988, 22-47.

For the floating population, there is another set of regulations and penalties.¹²² We will not detail these in this paper.

In the urban areas, a higher proportion of couples adopt the one-child policy than in rural areas. One reason is that the resources for all the promised incentive awards are better guaranteed in the urban areas. Another is that most urban residents are state or collective workers and staff who must comply with the one-child policy in order to avoid large penalties. On the other hand, in most of the rural areas, the terms for the incentive awards are not clearly defined and the resources for the awards are not guaranteed. Furthermore, compared with the actual benefits of having unauthorized births, especially boys, the amount of the award is not enough to persuade many of the peasants to abide by the one-child policy. By the same token, the amount of the penalty is too insignificant to prevent prosperous peasants from having births outside the local government's birth plan.

There are, however, many rural areas in China where the penalties for bearing an unauthorized child are high in comparison to local incomes and are enforced. In such localities, many couples have fewer children than they desire in order to avoid the penalties.

¹²²For details see China Family Planning Yearbook 1987, 34-40.

G. Utilization of Fines for Births Outside the Plan

There is very little available information on the amounts of money collected as fines for having an unauthorized birth. In some areas the sums are large and their use is not well monitored. Reports often appear in newspapers and periodicals about corruption among family planning cadres, their mismanagement of collected fines and their abuse of excessive birth fines for personal gain (such as luxurious banquets and personal travel).¹²³

Fines collected, nevertheless, may be a major financial source for the family planning program. (A few examples of utilization of fines for births outside the plan are included in Appendix F.) There is an interesting example given in a 1989 article to illustrate the budgetary relevance of fines for births outside the official birth plan:

The birth control rate of Yongan Township of Fengjie County in Sichuan Province reached 100 percent (i.e. no excessive births). However, because this town no longer collected excessive birth fines to supplement its revenue, it faced a severe lack of funding for its family planning operational expenditures. It was not able to pay for such expenses as wages and bonuses for the family planning cadres, cost of medicine, cadres' business trips and training courses.¹²⁴

In localities where the family planning program has obtained increased compliance, fewer unauthorized births occur, which also means that revenue from "excessive birth fines" could

¹²³Details see Cheng and Wu, 1989, 54 and Chen, 1990, 61-62.

¹²⁴Cheng and Wu, 1989, 53.

correspondingly decrease. Who then picks up this portion of the family planning budget? Circumstances in the urban areas are quite different from those in the rural areas.

In urban areas, the majority of married couples are strictly abiding by the "one-child per couple" policy. Measures of compliance such as "planned birth rates" in urban areas are rather high. Therefore, revenue from fines for unauthorized births is nowhere near enough to offset family planning expenditures.

In rural areas, the situation is quite different. There are towns and villages whose birth control rates reach 100 percent and financial departments at both the county and town/township levels reportedly subsidize these towns and villages. Nevertheless, in most rural areas, many peasants continue to bear unauthorized children. In some places, revenue from collecting the financial penalties for unauthorized births is enough to offset family planning operational expenditures. For example, during the 1980s, a county in Sichuan Province covered about 96 percent of its actual expenditures for family planning work by levying fines for unauthorized births.¹²⁵

H. Expenses for IEC

In order to enhance the understanding of the present young and future generations about demographic matters, China has introduced population education into the curricula of middle

¹²⁵Cheng and Wu, 1989, 53.

schools and institutions of higher learning. These programs promote late marriage and small families. Population research units have been established and demography is now taught in more than 30 universities and colleges. Basic population theory is now taught in most senior middle schools and reproductive physiology and personal hygiene are reportedly taught in all junior middle schools.¹²⁶ In order to strengthen population education among young people, UNFPA provided US\$5.5 million for population education for a teachers' training program, curriculum design, and sex education materials for high school students.¹²⁷

The Family Planning Yearbook 1986 reported: "In the 1980s, there was new development in the strength of IEC. Along with the opening-up and reform policy, joint research projects on population and family planning were signed with UNFPA. IEC of family planning was one of the joint research items. For the first cycle (1980-1985), the amount allocated to this item was US\$8.3 million, accounting for more than 16 percent of the total amount for the joint research project....."¹²⁸

Short-term training courses are frequently held for population and family planning officers and field workers with emphasis on basic population theory, general population issues facing China, IEC methods, and birth control procedures so as to make them capable of disseminating knowledge of population and family planning. So far almost all the family

¹²⁶China Family Planning Yearbook 1986, 74.

¹²⁷Ye Liqi, 1991, 6.

¹²⁸China Family Planning Yearbook 1986, 323.

planning workers have gone through short-term training courses (with about 500 at the national level, about 2,000 at the provincial level and more than 480,000 at local levels).¹²⁹ Besides this, the Nanjing Family Planning Managerial Cadre College was established in 1985, with UNFPA support, to run a 2-year course for family planning managers at provincial and county levels.¹³⁰ In addition, from January 1988 to December 1989 a UNFPA project entitled "To Strengthen the Capabilities of the State Family Planning Commission in Policy Stipulation, Data Base Management, Research and Evaluation" was carried out in China. Total UNFPA input for the project was US\$1,221,810.¹³¹

Madam Peng Peiyun in a 1989 speech instructed that each family planning committee at the county level should allocate a certain proportion of its operational expenditures for IEC expenses. In addition, each village can obtain a portion of accumulated public funds and birth fines for IEC expenses.¹³²

Ms. Peng Yu, deputy director of the State Family Planning Commission, in a 1989 speech suggested that the family planning departments at the provincial level establish a separate communication department with at least two staffers, and that family planning departments at the county level should have one or more full-time or one specially designated part-time cadre.

¹²⁹These figures are based on the incomplete statistical data as of the end of 1987. For details see China Family Planning Yearbook 1988, 67.

¹³⁰For details see China Family Planning Yearbook 1986, 243.

¹³¹China Family Planning Yearbook 1990, 84.

¹³²China Family Planning Yearbook 1990, 51.

Each locality should guarantee operational expenses for family planning communication activities.¹³³

I. Expenditures on Family Planning Scientific Research Projects

A 1983 State Family Planning Commission regulation stipulated that money for research should all be allocated as follows: Of the family planning scientific research budget, research on theory should account for 20-25 percent; research on applications should constitute 60-65 percent; research on development should make up 10-15 percent and research on information, 3-5 percent. The regulation also stipulates that units at the grass-roots level should change the proportion of the distribution according to their actual conditions and the nature of their research assignment.

For scientific research projects, four different levels of management are designated: (1) State Family Planning Commission (2) ministry planning committees (3) local planning committees and (4) unit planning committees. The economic management system for scientific research treats each individual research project of the state scientific projects as an accounting unit. Meanwhile, local units can choose their own research projects. However, these units are responsible for their own working expenses. In general, there is no special grant allocated for financial support of local-level family planning research.

¹³³China Family Planning Yearbook 1990, 152-156.

Mr. Wu Jingchun, Deputy Director of the State Family Planning Commission, commented in 1989 on the paucity of available funds for family planning research:

Regarding working expenses for the family planning scientific research projects, after the reform of the science and technology system, the Ministry of Finance allocated all the working expenses regarding scientific research to the Science Commission. Currently the Family Planning Commission in China can obtain two grants to cover the working expenses. One is the special task research grant from the state. The total for this five-year grant is 7.89 million yuan. The other is a project grant from the committees at the ministry level. The annual allocation for this grant is 2.25 million yuan. Therefore, the average total for the grant is about 4 million yuan per year. This is obviously insufficient. The Division of Science and Technology is willing to allocate some funds for research projects. However, more often than not, it is limited by insufficient budgeted working expenses. Family planning committees at all levels perhaps are able to allocate a certain amount for the special research funding by squeezing some funds from their budgetary operating expenditures.¹³⁴

Madam Peng Peiyun in her July 30, 1989 speech also noted:

You all mention the insufficiency of research working expenses. We can understand your situation. This year the amount that you all requested for your research working expenses totaled 304,000 yuan. However, we are only able to provide you 157,500 yuan. Even though this is only half as much as you are asking for, we have to squeeze this sum from our limited budgetary operating expenditure. This year, the state not only has not increased our budget for operating expenses, but will cut the budget by 5 percent in the latter half of the year. Therefore, please do what you can. You may have to downgrade the content and scale of some research projects. Even so, you still have to struggle hard. We hope some day we can obtain a grant for policy research. The government should have allocated expenditures for this kind of research. Nevertheless, working expenses for this kind of research were not included in the budgeted operational expenditures allocated from the state to us. From now on, we will do all we can to obtain the budget.¹³⁵

¹³⁴China Family Planning Yearbook 1990, 134.

¹³⁵China Family Planning Yearbook 1990, 72.

Even though the above statements indicate that the scientific research funds from domestic sources are scarce, the assistance from UNFPA from 1979 to 1989, on the other hand, is rather significant. Over the past ten years, funds from UNFPA helped to establish four family planning scientific research institutes in Beijing, Tianjin, Chengdu and Guangzhou. These four institutes conduct research on contraceptive supplies and devices. They purchased advanced analytical research instruments and equipment (for example, in the past five years, Chengdu imported more than US\$600,000 worth of equipment, Tianjin imported US\$880,000 worth of instruments, lab materials and books and Guangzhou imported US\$490,000 worth of equipment). These institutes have also trained a number of scientists for contraceptive research.¹³⁶

In addition, research grants were awarded by international organizations to many individual institutes and scientists. Since details can be found in Inventory of Population Projects in Developing Countries Around the World, 1989/1990, we only list a few items as examples. Research grants were awarded to the Shanghai Institute of Planned Parenthood Research (\$74,059); and the Family Planning Research Institute of Zhejiang in Hangzhou (\$43,905). The World Health Organization in 1989 collaborated with the National Research Institute for Family Planning in Beijing, which received \$490,407. Research training grants were awarded to 33 Chinese scientists, the total expenditures under this heading amounting to about \$725,300, of which \$246,128 were UNFPA funds.¹³⁷

¹³⁶For details see Ye Liqi, 1991, 6; China Family Planning Yearbook 1990, 163-165.

¹³⁷Inventory of Population Projects in Developing Countries Around the World 1989-1990, 117.

J. Expenses for Equipment, Fixed Assets and Capital Construction

Capital construction and equipment expenditures for family planning work do not appear to be included in the family planning operational budget. Neumann and Chang point out that "capital expenditures do not enter family planning cost calculations in China, as found in the author's research."¹³⁸

It was stated in Document #37 issued in 1982 that "regarding the construction of service stations, the investment in its capital construction should be financed by the unified funds for the locality and funds raised by the locality while implementing the regulation of the State Planning Commission."¹³⁹

Capital construction for family planning programs may cover the building of family planning clinics at the county level, facilities built for family planning scientific research labs, facilities built for printing family planning information and publications or to store contraceptive supplies and devices, or even houses built as living quarters for family planning personnel.¹⁴⁰ Each village, each county, and each province may come up with its own funds. However, expenditures for capital construction investment are mainly special funds allocated annually by the State Planning Commission to the State Family Planning Commission and then to

¹³⁸Neumann and Chang, 1988, 127.

¹³⁹China Family Planning Yearbook 1988, 97.

¹⁴⁰For details see China Family Planning Yearbook 1990, 147.

governments at all levels for the specified purposes. According to the 1990 Family Planning Yearbook, the special fund for capital construction investment allocated by the State Planning Commission to the family planning system was 25.5 million yuan in 1989. Of this amount, 13.02 million yuan was used for capital construction projects of units directly under the administration of the Family Planning Commission and 12.48 million yuan was used to support local capital construction investment.¹⁴¹ (The detailed examples regarding the funds for building and equipping China's family planning service stations are included in Appendix G.)

VI. Foreign Assistance for Family Planning

A number of international and bilateral donors have contributed money to China for population and family planning; the organizations and funds are compiled in Table 19. The majority of this aid is allocated to projects relating to the production of contraceptives. These include assistance with the setting up of factories for IUD production; funds for increasing production facilities for oral contraceptives; aid for the manufacture of vaginal suppositories and tablet production; funding for the production, testing and packaging of condoms; training programs in contraceptive production and quality control; and support for continuation of NORPLANT introduction into the national family planning program. Great emphasis has also been placed on research and training projects. Many Chinese government agencies, universities, and research institutes are involved in the ongoing projects. Even though we can calculate the total amount donated by UNFPA, WHO, UNESCO, JOICFP, FAO, and other organizations

¹⁴¹China Family Planning Yearbook 1990, 147.

Table 19: China, Foreign Aid in the Population Field (In U.S. dollars)

Donor organization	1985	1986	1987	1988	1989	1990	1991
United Nations Fund for Population Activities (UNFPA)	8,409,945.75	6,909,945.75	8,409,945.75	8,393,927.75	3,313,742.25	11,267,323.00	11,400,000.00
World Health Organization (WHO)				411,539.00	41,153.00		
Danish International Development Agency		145,000.00					
Norwegian Ministry of Development Cooperation	182,862.60	182,862.60	182,862.60	182,862.60			
Government of Finland (ISI)		57,000.00	57,000.00				
Australian International Development Assistance Bureau					2,100,000.00		
Family of Americas Foundation					45,000.00		
Swedish Agencies for International Assistance			117,000.00	286,000.00	215,000.00	210,000.00	177,000.00
International Planned Parenthood Federation (IPPF)				920,000.00	960,000.00	930,000.00	
Japanese Organization for International Cooperation in Family Planning, Inc. (JOICFP)				228,930.00	114,470.00		
The Population Council	155,125.00	155,125.00	177,277.00	255,777.00	308,454.00		
Program for Appropriate Technology in Health (PATH (PIACT))	2,380,000.00	2,380,000.00	2,381,000.00	2,383,000.00	2,380,000.00		
The Rockefeller Foundation					319,240.00		
Total	11,127,933.35	9,829,933.35	11,470,085.35	13,062,036.35	9,477,819.25	12,407,323.00	11,577,000.00

Note: The amounts shown for 1987 and 1991 for the Swedish Agencies for International Assistance are for one-half of the year.

Source: Inventory of Population Projects in Developing Countries Around the World, 1988/1989 and 1989/1990 editions.

from the reported figures, we cannot draw a clear picture of how these funds are actually applied, and no single agency or institute in China has provided an overall accounting for the utilization of foreign funds. Figures about foreign aid are reported sporadically in family planning yearbooks and various reports; these occasional figures, more often than not, are singled out or treated as special funds in reporting the expenditures for family planning. There appears to be no systematic reporting on foreign aid to the family planning program in China.

To show the interrelations between foreign aid and Chinese government funding, one report indicates that the Chinese government utilized the US\$100 million allocated by UNFPA (1979-1989) to establish 64 joint research projects. To set up a supporting fund, the Chinese side invested about three to five times as much as the amount of foreign aid received.¹⁴²

Much of the money provided by foreign donors is not incorporated into our estimates of China's yearly family planning budgets in Table 12. For example, no category is included for the building and equipping of IUD and condom factories in the budget. Included, however, are the annual costs of buying from the factories the IUDs and condoms needed that year in the family planning program.

Comparing foreign aid to China in the population field with the total family planning budgets we have compiled in Table 12 illustrates how self-reliant China's family planning program has been. Using the formal exchange rate each year, in 1985 China received US\$11

¹⁴²Ye Liqi, 1991, 6.

million or 33 million yuan in population assistance. This was equivalent to only one percent of China's 1985 family planning expenditures. In 1987, foreign aid in the population field was the equivalent of one percent, and in 1989, 0.8 percent of our estimated family planning expenditures for China.

VII. Overview of Interventions and Their Effectiveness

The PRC family planning program strongly influences the reproductive decisions of most married women of reproductive age in the country. While the program does not always succeed at constraining each woman's fertility to the government's desired one-child limit, it has achieved significant results. In particular, it has gradually lowered fertility expectations and desires for most people. Some couples may desire more children than the government allows, but they might want two or three children instead of six or seven. China's pervasive family planning message has been partially internalized by most people.

A. Ideal Family Size

Several surveys have asked respondents about desired number of children. It is clear from their answers that the preference for having two or more children continued into the 1980s in rural and mountainous areas. For example, a small 1981 fertility survey of rural areas in

Hubei Province had these results: "Among 728 [peasants] questioned, only 5 percent want to have only one child, but 51 percent wish to have two, 28 percent wish to have three, and 15 percent wish to have four children. In the mountainous areas where traditional ideology is strong, 27 percent want two and 72 percent wish to have three or four."¹⁴³ If the survey had given respondents the option of preferring more than four children, the average desired family size would have been higher.

A government pamphlet reported on a small 1986 survey of urban and rural residents in and near three cities in China's urbanized Liaoning Province, conducted by the Liaoning Provincial Family Planning Commission. The results were:

Those who want to have only one child made up 25.2 percent of the urban and 8.7 percent of the rural population; those who would like to have another child made up 74.4 percent of the urban and 88.9 percent of the rural population; and those who want to have a third child made up 0.4 percent of the urban and 2.4 percent of the rural population. The survey shows that people's viewpoint on childbirth and childbearing is changing into that of having fewer and healthy babies. However, two childbirths still seem to be the most desirable state.¹⁴⁴

Outside the three province-level municipalities of Beijing, Shanghai, and Tianjin, Liaoning is China's most highly urbanized province. City populations in this industrialized area, and suburban populations in the near periphery of these cities, would be expected to have about the lowest desired family size in China.

¹⁴³Cheng Du, "Hubeisheng nongcun shengyulu diaocha" [A fertility survey in rural areas of Hubei province], Renkou yanjiu [Population Research], 5, Sept. 29, 1982: 31.

¹⁴⁴China, Facts and Figures: Population and Family Planning. Beijing: Foreign Languages Press, 1990, 11-12.

Based on China's surveys on desired numbers of children, young unmarried or recently married adults strongly prefer to have two children, though larger proportions of these than of older cohorts respond that they want one child.¹⁴⁵ However, family size preferences do appear to be declining over time.

No matter how many children individual couples want for themselves, most adults in China seem to have accepted and internalized the idea that China has too many people, and that control of population growth is essential. High proportions of respondents in family planning surveys agree that "population should be put under control."¹⁴⁶ More informally, visitors to China get lectures on the problems of over-population from the least educated of rural people, from highly educated urban elites, and from most people inbetween these extremes.

B. Current Limits to Fertility Reduction in China

During the 1970s, China's expanding family planning drive succeeded in halving the country's total fertility rate from 5.8 births per woman in 1970 to 2.8 only seven years later (Table 1). It appears from this very rapid fertility transition that Chinese couples did not vigorously resist the shift from having six children to bearing only three per couple.¹⁴⁷ In the

¹⁴⁵Chen and Luo, 1985; SSB, 1987, 2.

¹⁴⁶Lu Guanghui and Ge Shijun, 1987, 2.

¹⁴⁷Banister, 1987, 234; Freedman and Guo, 1988, 135-136.

period since 1977, the Chinese government has:

- introduced the one-child policy
- expanded the geographic scope of required abortion and sterilization policies
- included the minority groups in the program of birth limitation
- constantly fine-tuned the required and voluntary aspects of the family planning program.

Yet through 1990, the total fertility rate fluctuated between 2.2 and 2.9 births per woman-- hitting a low point in 1980, peaking in 1982, dropping again to a nadir in 1985, peaking again in 1987, and apparently declining again. Some of these fluctuations, as discussed earlier, were influenced by changes in age at marriage.

Economic, social, and political changes in China since the 1970s have had and will have mixed effects on fertility. China's program of economic reform was launched in 1978. By 1984 most rural people's communes had been dismantled, and rural family households began to have more control over their daily lives, production, income, movement, and family decisions. At the same time as rural cadres lost some of their former stifling control over the lives of villagers, the perceived value of children to rural families may have increased. Now, each child, especially each son, can be expected to provide farm labor to increase family food supply and income from agriculture, or get a nonagricultural job to increase family income, and also provide family welfare support now that the former rural welfare system has been weakened. Analysts from China's State Planning Commission noted this effect of the 1980s agricultural reforms: "It has become a clear advantage to have a large family, especially one

made up of male workers."¹⁴⁸ Greater population movement under the reforms has also diminished the impact of fertility controls.

But an opposing effect of the economic reforms since 1978 has been to raise people's incomes and living standards enough to make them more vulnerable to the effects of family planning related incentives and penalties. This is especially true when families enter the modern economic sector. For those working for the public sector, financial disincentives for violating family planning regulations are often large in comparison to family income. Most couples with one or both partners working outside agriculture cannot risk the financial hardships that would follow the birth of an unauthorized second child. Successful resistance to the urban one-child policy appears to be infrequent, especially in cities. The main reason that the city total fertility rate has not dropped to 1.0 birth per woman is that some second births are allowed to certain women in cities, for example minority group women, couples whose first child is handicapped, and couples both of whom were single children themselves.¹⁴⁹

¹⁴⁸Xin and Zhang, 1990.

¹⁴⁹Certain cities are extreme examples of the success of the one-child policy. For example, Shanghai city districts have claimed a total fertility rate of 1.0 or 1.1 throughout most of the 1980s. The 1990 census recorded that 92 percent of all the 1989 births in the whole municipality, including the counties surrounding the city, were first births. Shanghai Population Census Office, Shanghai renkou [Shanghai's Population]. Shanghai: Shanghai Scientific and Technical Press, 1991, 22.

VIII. Future Prospects

A. Future Fertility

The government, encouraged by its success in halving the level of fertility during the 1970s, shifted to a two-child policy in 1977 and rapidly to a one-child policy in 1979, both policies applicable to urban and rural areas alike.

Beginning in 1984, the government began sanctioning the concept that rural couples with undefined "special difficulties" would be allowed two children. Since most rural couples were bearing at least two children anyway, the effect of this policy shift was to narrow the gap between government demands and actual rural fertility. The transition back toward a rural two-child policy is still partial--only six provinces allow all rural couples two children. Another 16 provinces have adopted a "one-and-a-half child policy," to phrase it awkwardly. To counter strong son preference and discrimination against girls, this policy states that parents of a firstborn son must stop at one child only, while those with a firstborn daughter may have a second child. At last report, seven provinces still have a strict rural one-child limit.¹⁵⁰

Based on trends in the 1980s, we could project that the one-child policy will be continued in urban areas, while the policy for rural areas will range from one to two children per couple in the near future as it has in the recent past. The likeliest scenario for the 1990s is continuation of the unstable equilibrium between limitations on fertility set by the government and popular

¹⁵⁰Banister, 1991.

attempts to exceed the birth limit. Recently available information suggests that the government has succeeded in reducing fertility below replacement level by 1992. Therefore most observers are projecting low fertility for the foreseeable future. However, it is possible that required family planning could cease with future shifts in government perspective. If China's family planning program becomes voluntary in the 1990s, fertility is sure to rise.

B. Future Population Size and Growth

Though China's fertility is unusually low for a developing country, the population has continued and will continue to grow. Between the 1982 and 1990 censuses, China's population increased at about 1.4 percent a year. The crude death rate is low (now about 7 deaths per thousand population per year) because of comparatively good mortality conditions combined with a young age structure. The crude birth rate remains at 18 births per thousand population per year or higher because of a bulge in China's age structure in the peak childbearing ages from the late teens through the twenties. This upward pressure on the birth rate will ease in the late 1990s.

Judging from the count of young children in China's 1990 census, fertility peaked most recently in 1987 at about 2.8 births per woman but may have declined to as low as 2.2 births per woman in 1990. The TFR may have dropped further to 1.9 births per woman in 1992, based on more recently reported data. We expect some slight fertility decline in the 1990s, unless the requirements of the program ease for political reasons. Factors contributing to a

decrease in fertility would be continuing urbanization and further decline in the fertility level of the minority groups.¹⁵¹ If China's fertility level declines further to about 1.8 births per woman at the turn of the century, China's population will increase to about 1.26 billion by then.

C. Future Shifts in Age Composition

China's very sharp fertility decline of the 1970s has already caused some dramatic shifts in the age composition of China's population. By the early 1980s, much smaller cohorts of children began entering primary school. It is a benefit of low fertility that the school system can be relieved of the pressure to continually expand the sheer number of schools, teachers, and classrooms. China is reaping this benefit now.

Another benefit of low fertility that is imminent in China is a decline in the numbers of teenagers and young adults entering labor force ages. From 1982 to 1990, the 15-24 age group grew from 203 million to 249 million, averaging 2.5 percent annual growth. Such rapid growth made it difficult to expand the numbers of jobs fast enough and control or reduce unemployment in the 1980s. The size of this age group began declining in 1991, a lagged effect of the 1970s fertility decline, and will decrease every year, dropping to 195 million by the year 2000.

Nevertheless, the size of the broad labor force age group 15-64 will continue growing in the 1990s and beyond, and China will experience the aging of its workforce in the first

¹⁵¹Banister, 1991.

decades of the coming century. The population in the age group 40-64, for instance, was 31 percent of the 15-64 labor force age group in 1990; this proportion will increase to 37 percent in the year 2000, 44 percent by 2010, and 48 percent by 2020.

China's population as a whole will age in the coming century. The sharp drop in the country's fertility level in the 1970s has brought about a contraction in the population age pyramid at the young ages. The huge cohorts born before the fertility decline now constitute a bulge in China's age structure at the young adult ages. As the large cohorts grow older, they will swell the older labor force age groups, and later the ranks of the elderly. The proportion of the population in the elderly ages 65 and above is projected to constitute about 23 percent of the total population by 2040, up from 6 percent in 1990.

D. Urbanization and its Implications

China's population urbanized rapidly in the 1950s, but then the authorities decided to block further urbanization by forbidding most population movement, instituting location-specific food rationing, and requiring millions of urban-born youth to move to the countryside. As a result, the urban population constituted only 17-18 percent of China's total population for two decades. Since the beginning of China's economic reform period in 1978, more rural-to-urban migration and circular migration have been allowed, though significant barriers to movement remain. The urban portion of China's population grew to 21 percent in 1982 and 26 percent in 1990.

With greater rural-to-urban migration allowed, some adults use this opportunity to get away from control of their fertility by local authorities at their legal home. Such migrants have moved to "temporary" slum areas outside some cities, where they bear unauthorized children and avoid the population registration system. These children are not "legal," and they may be deprived of schooling and other basic benefits. In the short run, the effect of the migration of these women or couples is to raise their fertility because the couples are evading China's family planning program. However, much of today's rural-to-urban migration tends to hold the fertility of the migrants at a low level as they come under tighter urban fertility restrictions.

In the long run, rural-to-urban migration is expected to have a net effect of reducing fertility in China. This is not only because fertility controls are more rigid and effective in urban areas, but also because urban conditions are conducive to a low-fertility lifestyle.

The very low fertility in China's urban areas will bring about more pronounced aging of the urban population than of China's whole population.¹⁵² The fertility level of China's urban population dropped in half in the mid-1960s, and has been below replacement level since the early 1970s. Some of China's leading cities are already concerned about the phenomenon of population aging because the process is already visible there. Some municipal leaders are tentatively suggesting that their cities be allowed to return to a two-child policy as early as the 1990s to ameliorate the extreme population aging they themselves forecast.

¹⁵²Banister, 1989.

E. Implications of China's Fertility Level

China has had low fertility for two decades. Yet it remains a poor developing country with only minimal unemployment compensation, social security systems, or other welfare programs that might take the place of the family and of grown children in providing support. What has low fertility meant already and what will it mean in such a context?

The reduction of fertility in China from 6 births per woman to 2 has benefited China's economic development effort by slowing population growth. China's population is still increasing in size and density, and is likely to continue increasing for decades to come, but population pressure on the environment, arable land, job opportunities, urban areas, and open space would have escalated much faster had fertility not declined.

Low fertility results from, and then reinforces, couples shifting away from emphasis on the number of children they bear toward stressing the "quality" (health, education, career, happiness) of each child. We would expect that the single child of couples that sign the one-child pledge would show great gains in child "quality," because the government has mandated that resources be given these couples and their single child--free schooling, money, health allowances, better housing, better jobs. This must be happening, but it is hard to measure. Most research so far has detected almost no differences between single children and those

children with siblings regarding their personalities, success in school, or how others evaluate them.¹⁵³

As in other advanced East Asian countries, low fertility in China has had and will have mixed effects on family welfare. On the positive side, reduced fertility has meant that the child dependency burdens on the families are lighter than in the past. This has freed up the women in the families for productive and remunerative work, and for other societal involvement outside the home. But on the negative side, nuclear, stem, or joint families are the basic economic units in China, and there are now fewer children to contribute unpaid labor to the family, earn income for the family, support the sick and the elderly, minimize the risk of destitution, give emotional support to other family members, and represent the family in the community. In the future, especially in urban areas where single-child families are the norm, large proportions of families can expect to disintegrate if the only child leaves the immediate area. For older couples or individuals with good pensions, this might not be a problem. But for the urban elderly who qualify for little or no social security, and for most of the rural families, to lose the emotional and financial support of their child or children could be serious.

Normally, we expect reduced fertility to follow from, and to contribute further to, improved status of women in a society. Women in China have made great gains in comparison to the pre-Communist period, in terms of legal status, involvement in the labor force, education, personal stature, and emancipation from foot-binding and other demeaning customs. Most of

¹⁵³Poston and Falbo, 1989; Falbo and Poston, 1991.

these gains preceded the fertility decline, and many have been enhanced by the low fertility today. But family planning and tight fertility limitation may also have had some negative effects on the status of girls and women. Son preference is strong in China, and when only one or two children are allowed, couples often insist that the only child or one of the two must be a boy. Women are often blamed if their first child is a girl. In addition, it is primarily women who are subjected to the monitoring and pressure associated with required family planning.

V. Conclusions

There are numerous lessons that could be drawn from China's family planning program and applied to other developing countries, especially Asian countries. China has shown that, even in a poor country, there are human and financial resources that can be tapped to carry out a strong, self-reliant family planning program. The Chinese government spreads the burden of family planning costs by mandating that each level of government and each enterprise contribute certain numbers of staff or amounts of funds. Other governments could also require or encourage involvement in the family planning effort by units below the central government level. But there must be a functioning government with a will to promote family planning. A well-functioning, modern economy is not required--China is proof of that.

Another lesson from China is that human ingenuity and flexibility can go a long way toward bringing success in a family planning program. China's family planning program is not static. When some aspects of the program are not working as anticipated, other creative

solutions are tried, then publicized if they work. Often the new strategies involve organizational change instead of, or in addition to, more funds.

Birth limitation has high priority in China, and the government is willing to spend or mandate the expenditure of considerable sums of money to maximize fertility control. The lack of accountability for how some of the money is spent surely contributes to waste in the program. Yet, we have seen that the Chinese program has tried to contain costs, overcome waste, cut funds for non-essentials, and enlist the assistance of volunteers, pensioners, and other low-cost workers to promote family planning. Other countries might study China's cost control measures to see which ones could be applicable in their situations.

China got rid of restrictions on abortion, sterilization, and the importation of birth control supplies in the 1950s, and since then all methods of birth control have been legal in the country. In contrast, many other countries in the world have outlawed one or more methods, or have blocked popular access to particular techniques, such as sterilization, abortion, the pill, IUDs, or condoms. It is not impossible to reduce fertility under such constraints, but it is a lot more difficult than in countries like China where all methods are allowed.

In China, birth control supplies and surgery are given to married couples free of charge and at reasonably convenient locations. At the same time, Chinese leaders have discovered that negative side effects or sequelae of birth control operations give the family planning program

bad publicity, so they have moved to restrict which clinics may provide which operations.¹⁵⁴ The cost of providing safe operations at many more locations may also be prohibitive. To achieve maximum accessibility with minimum risk to users is a goal that family planning programs everywhere might find relevant. China's domestically financed system for providing contraceptives and surgery in a network accessible and inexpensive or free to most married people is a model applicable to other countries.

As a populous developing country, China can take advantage of the considerable economies of scale associated with factory production of condoms, pills, spermicides, and IUDs. A few factories produce all that China needs of each type of contraceptive. It might make no sense for a small country to set up a factory making ten times the IUDs it needs, but coordination among a group of nearby countries could expand the market enough to make a contraceptive production factory worthwhile. Populous developing countries would do well to follow the China example and produce rather than import their own birth control devices, if they are capable of achieving high quality standards and continual quality control. The examples of the poor quality steel ring IUDs that China keeps producing, and the poor quality condoms produced until recently, are not worth emulating. But China's use of international assistance to set up modern factories producing top quality IUDs, condoms, diaphragms, spermicides, and pills is a good model.

¹⁵⁴In China, concern for the health of users does not prevent the continuing use of required abortions in all three trimesters of pregnancy, however.

China measures the success or failure of its family planning program not by counting "acceptors" of this or that family planning method, but rather by looking at actual fertility per woman and the actual birth rate. All these measures are imperfect. In China as anywhere, when it is family planning workers who are collecting and reporting the data that measure their own success, the result is that acceptors are overreported and births are underreported. Chinese leaders learned in the early 1980s that such data are not to be trusted. Since 1982, they have carried out several fertility surveys and censuses of exceptional quality. Several times the results of these massive efforts have shown that fertility was higher than previously thought. Such reality checks are needed to overcome the self-deception common in family planning programs.

China has also demonstrated for other developing countries that desired family size can be reduced from traditional levels even in a poor country where people are illiterate or educated only at a primary level. In the Chinese case, some of this transformation probably came from the compulsory nature of the program, but some also is attributable to the widespread teaching of simple demographics, attempts to educate and persuade, and lots of pro-family planning publicity.

This report has shown that a considerable proportion of the expense of China's family planning program is associated with the one-child incentives. Such an incentive program is not an essential part of a developing country family planning program, and without it the costs would be much lower. Also, the compulsory elements in China's family planning program add to the expense. To continually monitor women's menstrual and pregnancy and contraceptive

status requires far more time from family planning workers than running a voluntary program would require.

The China model of family planning is intriguing to many countries because of China's success in achieving low fertility against great odds. Fortunately for these other countries, there is much to learn from Chinese experience in family planning that is applicable to countries without required family planning.

APPENDICES

Appendix A: Family Planning Expenditures in China's National Budget

In China's national government budget, which includes the budgets of all the provinces, where do family planning revenue and expenditure fit in? In 1964, the State Council approved the "Regulations on Family Planning Budget and Expenditure" and delegated responsibility for supervision of this budget to the Ministry of Public Health and the Ministry of Finance.¹ Ever since, "family planning budget and expenditure" has been listed as a special item in the State budget. In 1970, when Premier Zhou Enlai talked with the staff of the Military Control Commission under the Ministry of Public Health, he emphasized, "Don't mix the Patriotic Public Health Movement with the Family Planning Program. Family Planning should be included in the range of state planning. It is a matter of planning instead of a matter of public health."² Reports in the Family Planning Yearbook state that the financial management of the family planning sector was gradually separated from that of the Ministry of Public Health beginning in 1978. Especially after 1981, when the State Family Planning Commission and committees at the provincial and local levels were established one after another, the financial management work of the family planning program was reportedly improved and strengthened.³

¹Historical Experience of New China's Preventive Medicine, 1990, 324.

²Historical Experience of New China's Preventive Medicine, 1990, 326.

³China Family Planning Yearbook 1986, 260.

In view of the above statements, we have every reason to expect that a separate section for family planning finance is designated in the state budget report. If we carefully examine the 29 categories of China's 1988 budget and expenditure, we find Category 13, entitled Funds for Public Undertakings in Culture, Education and Public Health.⁴ In this category, 15 items of working expenses for various activities are listed, including such expenditures as working expenses for the Ministry of Culture and local culture sectors, working expenses for schools at all levels under the Ministry of Education, working expenses for the Ministry of Public Health, and expenditures for free medical care for state organizations. The last item on this long list--appearing almost as an afterthought--is working expenses for the family planning program.

With this in mind, in China's financial reporting we can expect to find that the budget and expenditures for family planning activities will be covered under the umbrella heading of Funds for Public Undertakings in Culture, Education and Public Health. Indeed, in China Finance Statistics (1950-1988), the state budget and expenditure allocated for the family planning program for the years 1978, and 1985 to 1988 appears as an entry under this heading.⁵ Even in more detailed reports, expenditures for family planning are sometimes indicated but not further broken down into component expenditures. From time to time, scattered financial figures are reported by individual provinces. However, only in the 1990 Family Planning

⁴Dai Genyou, 1990, 360.

⁵China Finance Statistics (1950-1988), 1989, 82.

Yearbook do we find systematic reporting on family planning operational expenses collected from all provinces for 1988 and 1989.⁶

⁶China Family Planning Yearbook 1990, 144-145.

Appendix B: Organizations and Personnel Involved in the Family Planning Program

In August 1989 the State Personnel Office authorized the State Family Planning Commission to establish seven public institutions and two affiliated social groups.¹ These organizations and their authorized personnel levels are as follows:

Institutions:

1. Scientific Technology Research Institute under the State Family Planning Commission, with 224 authorized personnel;
2. China Population Information and Research Center with 110 authorized personnel;
3. China Population Newspaper, with 70 authorized personnel;
4. China Population Publishing House, with 30 authorized personnel;
5. China Family Planning Propaganda and Education Center, with 125 authorized personnel;
6. Nanjing Family Planning Managerial Cadre College, with 180 authorized personnel;
7. Family Planning Commission Contraceptive Supplies and Devices Service Center, with 35 authorized personnel.

Groups:

1. China Family Planning Association, with 40 authorized personnel;
2. China Population Welfare Foundation, with 10 authorized personnel.

¹China Family Planning Yearbook 1990, 114-115

Regulations were stipulated by the State Family Planning Commission on June 1, 1981 regarding departments involved in the family planning program and their responsibilities.² The detailed descriptions are as follows:

(1) State Family Planning Commission: studies and formulates policies, principles, laws and regulations of family planning, supervises their enforcement and provides guidance; with the State Planning Commission works out long-term plans and medium and annual programs of population development and supervises, urges and checks up on their implementation; is in charge of the statistics of birth control work; carries out propaganda of the birth control work at home and abroad; designs and carries out research programs of applied science on birth control techniques under the direction of the general program of medical science research formulated by the Ministry of Public Health; provides technical guidance for family planning and eugenics jointly with departments concerned; advances scientific research on population science; works out plans for the production of contraceptive pills and devices; formulates policies and principles of the management of pills and devices; controls the production of the pills and devices jointly with departments concerned; draws up budget and final accounts of funds for birth control allocated by central finance; maps out relevant projects and handles the investment of capital construction; makes programs and provides guidance for on-the-job training of family planning personnel; strengthens the building of contingent of cadres in the field of family planning; is in charge of international exchange and cooperation in the field of

²China Family Planning Yearbook 1986, 22-23.

family planning and population; provides guidance for the China Family Planning Association, Chinese Population Welfare Foundation and social organizations concerned.

(2) State Planning Commission: is in charge of examining and approving the population policy and making the policy known to each province, autonomous region, and municipality in China; provides supervision and guidance in policy implementation; guarantees the prerequisites for the task.

(3) State Science Commission: is in charge of examining and approving the regulations on family planning scientific research and making them known to the whole nation; provides supervision and guidance in the implementation of regulations.

(4) State Agriculture Commission: creates favorable conditions for implementing the guidance and policy of family planning and population planning when stipulating rural economic policy; includes population birth control planning in the production responsibility system while promoting the system in the rural areas.

(5) State Nationalities Commission: helps stipulate the population policies and guidance relevant to minority nationalities.

(6) Ministry of Public Health: on the basis of state unified rules and in coordination with units concerned, works out regulations of professional titles and salary quotas for medical workers;

is in charge of plan-making and macro-administration of maternity and child health care; stipulates regulations, rules, and technical standards of family planning; is in charge of supervision and inspection of technical quality, development, and study of new technologies and eugenics.

(7) Ministry of Chemical Industry, Medicine Administration and Manufacturers: is in charge of organizing the scientific research, manufacture, and supply of contraceptive pills and birth control devices.

(8) Ministry of Culture: is in charge of organizing the creative writing of literature and other artistic performance to propagandize the family planning program through various cultural formats.

(9) Ministry of Education: arranges courses to teach puberty psychological hygiene, basic population theory, late marriage and birth control in junior middle schools; to establish population research units and to teach family planning and demography at colleges and universities.

(10) Ministry of Civil Administration: conducts the propaganda for late marriage and birth control to the youth in the process of marriage registration; provides sound social relief to those urban and rural residents who become disabled due to accidents from inappropriate birth control surgeries.

(11) Ministry of Finance: thoroughly implements the policy to reward fewer births and to restrict excessive births while carrying out the financial tasks; supports and allocates all the necessary working expenses for family planning tasks; supervises financial departments at all levels to strengthen the management of family planning working expenses so that waste can be prevented and eliminated.

(12) Department of Public Security: is in charge of providing the statistical data from the population registration system for population planning; working with judicial departments to punish those who have violated the family planning regulations.

(13) State Bureau of Labor: in the process of stipulating planning for hiring and arranging employment, gives priority to the only-child or its parents when two applicants compete with the same qualifications.

In addition, the All-China Federation of Trade Unions, the Communist Youth League of China and the All-China Women's Federation educate the masses of workers, youth and women to implement the family planning policy.

Furthermore, the headquarters of political departments of the Chinese People's Liberation Army (PLA) and the headquarters of PLA logistics departments are in charge of the IEC task for the entire officers and men of the PLA in order to implement the family planning program.

Mass media also play an important role in the whole structure. New China News Agency, People's Daily, Bureau of Broadcasting Operations and TV stations all publicize the family planning guidance and policy of the party and central government. They also are responsible for reporting population and family planning trends and situations. In addition, they introduce updated scientific and technological knowledge of family planning to the people.

What is and what is not covered by the budgetary expenditures allocated by the Ministry of Finance for family planning operational expenses was spelled out in a regulation issued on January 13, 1983.¹ The following list is translated directly from the regulation.

The scope of family planning operational expenses covers:

(1) free supplies of contraceptive pills, contraceptive devices and management fees;

(2) fees for registration, examination, surgery, medicine, hospitalization, and post-surgery treatment when urban residents and rural commune members receive various kinds of birth control surgery;

(3) fees for treatment of sequelae due to inappropriate birth control surgery received by urban residents and rural commune members are also covered by the family planning operational expenses upon the determination of a birth control surgery technology advisory team above the county level;

(4) on principle, fees for other surgical operations received by residents and members while they are undergoing birth control surgery are paid by these individuals. However, if a certain individual has difficulty paying the fees, discount of the charge can be granted to this individual upon the approval of the family planning department above the county level. Expenses for the discount will be covered by the family planning operational expenses;

¹Compilation of PRC Public Health Laws, (1981-1983), 1985, 500-503.

(5) fees for birth control surgery received by youth waiting for jobs are also covered by the family planning operational expenses. Those unemployed youth who have joined the job agencies or similar organizations and who are supposedly covered by the public welfare funds of these organizations are still able to be covered by the family planning operational expenses when they have difficulty paying their fees and have obtained the approval of the family planning department above the county level;

(6) training expenses. Family planning departments above the county level conduct short-term training sessions to train grass-roots key members such as female team leaders and family planning propagandists for family planning work. Expenses for the training sessions such as training materials, office expenses, incidental expenses, meal allowance, travel expenses and other relevant training expenses are covered by the family planning operational expenses. Expenses (such as meal allowance) for family planning surgical team members (like the barefoot doctors in the organizations) who are not workers or staffers of state-owned enterprises should be covered by revenue from the charges for birth control surgery they have provided. However, family planning operational expenses can be used if these revenues are insufficient;

(7) equipment purchase. Some medical and technical establishments in the communes and brigades have difficulty purchasing the essential surgical equipment to perform the birth control work. Expenditures allocated by the family planning departments above the county level to these establishments to purchase essential, small-scale and specialized equipment for birth

control surgery should be covered by the family planning operational expenses;

(8) one-child health fund. The family planning operational expenses may temporarily cover the expenses of the one-child health fund for those unemployed persons who are waiting for jobs in the urban areas;

(9) operating expenses for the full-time family planning cadres of communes (villages) in the rural areas and of neighborhoods in the urban areas. Wages and benefits for these full-time family planning cadres should be the same as that of the cadres in the same commune or the same neighborhood;

(10) expenses occurring at the family planning department for convening business conferences and meetings, printing materials for family planning propaganda and technical information, holding exhibitions, and giving out awards and certificates of merit are covered by the family planning operational expenses;

(11) operational expenses for institutions directly under the departments of family planning above the county level. These institutions include family planning science research institutions, family planning propaganda centers, and propaganda and technology advisory stations;

(12) equipment, instruments, and appliances purchased for family planning work by the family planning department. In addition, expenses incurred from some odd pieces of capital construction which are not too costly will also be covered by the family planning operational expenses.

The following are some other expenditures which are relevant to the family planning program, yet are covered by operational expenses under other departments' expenditures or under different categories. The following list is translated directly from the regulation:

(1) expenses of birth control surgery and treatment of post-surgery sequelae received by the staff of state organs and institutions, political parties and groups, and people's organizations should be covered by "operational expenses for free medical care";

(2) expenses of birth control surgery and treatment of post-surgery sequelae received by the workers and the staff and their direct relatives supported by these workers and staff of the state-owned and urban collective enterprises should be covered by the enterprises' "welfare funds for the workers and staff";

(3) in the military, expenses of birth control surgery and treatment of post-surgery sequelae received by officers and men, workers and staff, workmen and their dependents should be covered by the "national defense expenses";

(4) each province, municipality and autonomous region has the autonomy to decide whether or not to compensate their workers for their loss of working time while they are away to join short-term training sessions;

(5) surgical equipment and instruments purchased by the medical organizations and maternity and child health care organizations at and above county level and under departments other than family planning departments should be covered by the operational expenses budgeted for these relevant departments and units;

(6) regarding one-child health fund expenses, the regulation stipulates that both units where the couple works will be respectively responsible for 50% of the total cost, no matter where the couple works or what kind of jobs they are holding. People in the hardship areas (independent basic accounting units in which the annual per capita income is less than 50 yuan) will be subsidized 50% of the cost by the state upon the approval of the people's government at the county level. This 50% subsidy is shouldered evenly by the central and local governments;

(7) expenditures for family planning conferences convened by party committees or governments of county and higher levels are also covered as administrative operational expenses. Expenditures for propaganda for family planning work conducted by departments and units other than family planning departments and units are covered as operational expenses for those relevant organizations and units;

(8) family planning departments at county or higher levels are regarded as administrative organizations. Personnel in these organizations are included in the billets for administrative personnel. Expenses incurred by these organizations are covered as administrative operational expenses.

The capability of a certain locality to provide health care to women and children can be evaluated by examining that locality's children's health care service, women's health care service and birth control services.¹ In many cases, maternity and child health care (MCH) and the family planning program are reported side by side as two complementary categories. Though there is a close relationship between the MCH and the family planning program, they are organized under different administrative organizations. MCH is under the Ministry of Public Health while the family planning program falls under the Family Planning Commission. In other words, the expenditures for MCH are covered by the budgetary expenditures for public health. Only in Chinese Health Statistical Digest, 1988 can we find a thorough breakdown for MCH expenditures in each province (Table D.1). Other than that, figures for these expenditures are reported only sporadically.

In China the number of separate MCH facilities is approximately one per county and county-level municipality.² General hospitals also provide MCH services. The township and neighborhood hospitals might be staffed with MCH teams or full-time MCH personnel. Medical staff from the departments of gynecology and obstetrics, internal medicine, or pediatrics would be responsible for some MCH services. Clinics for brigades (which are large villages or groups

¹Wang Shuo, 1991, 1.

²In 1985, China had 1,986 counties and 158 county-level municipalities. In 1989, China had 1,919 counties and 262 county-level municipalities. Meanwhile, the number of MCH facilities in China at the county level was 2,724 in 1985 and 2,796 in 1989.

Table D.1: China, Maternal and Child
Health Expenditures by
Province, 1987
(In thousands of current
Chinese yuan)

Province	Total expenditure
Total	133,040
Beijing	1,882
Tianjin	2,446
Hebei	9,167
Shanxi	7,544
Inner Mongolia	8,605
Liaoning	6,902
Jilin	7,396
Heilongjiang	7,304
Shanghai	1,653
Jiangsu	6,306
Zhejiang	7,423
Anhui	5,979
Fujian	4,195
Jiangxi	5,194
Shandong	9,473
Henan	8,454
Hubei	9,964
Hunan	10,013
Guangdong	6,466
Guangxi	10,901
Sichuan	15,832
Guizhou	3,667
Yunnan	8,755
Tibet	2,084
Shaanxi	4,640
Gansu	3,838
Qinghai	1,993
Ningxia	2,513
Xinjiang	2,450

of villages within each township) are sometimes staffed with female barefoot doctors or country doctors who provide MCH services. Some of these clinics have midwives as well (Table D.2). In the urban areas, there are Red Cross clinics and group health stations providing MCH services. Most of their personnel are not specially trained medical personnel. Most of them hold down regular jobs other than working in the clinics.³

Data from a recent survey conducted in 13 cities indicate that their annual per capita working expenditures for MCH was only 0.24 yuan.⁴ Reports from Inner Mongolia, on the other hand, indicate that in 1987, a special fund of 30 million yuan, about 1.45 yuan per capita, was invested in establishing MCH stations. From 1988 to 1990, governments from the autonomous region, the league cities and the banner counties of Inner Mongolia jointly invested more than 4 million yuan to improve working conditions, equipment and machinery of the MCH stations. In addition, each year the autonomous region squeezed a part of its government budget for housing maintenance and expansion of the MCH stations in the banner county areas. Every year in Inner Mongolia a sum of 100,000 yuan is also allocated for surveys and research on maternity and child health care as well as health education. Currently, the 72 banner county MCH stations all have office space and 54 of them even are equipped with ambulances.⁵

³Wang Chongyi et al., 1986, 180-185.

⁴Wang Shuo, 1991, 1.

⁵Zheng Zemin, 1991, 1.

Table D.2: China, Rural Part-time Public Health Personnel, 1965-1989 (In thousands)

Year	Total rural health personnel, both sexes	Female public health personnel	Of whom, trained in midwifery	Female percent of rural public health personnel	Midwives in the rural areas
1965	94				686
1970	1,218				
1971	1,301				
1972	1,230				
1973	1,212		190		
1974	1,372	384		28.0	524
1975	1,559	502	334	32.2	615
1976	1,802	638	440	35.4	727
1977	1,760	628	468	35.7	755
1978	1,666	582	410	34.9	743
1979	1,575	536	394	34.0	709
1980	1,463	489	356	33.4	635
1981	1,396	443	342	31.7	585
1982	1,349	410		30.4	550
1983	1,279	371		29.0	540
1984	1,251	356	314	28.5	524
1985	1,293	342	294	26.4	514
1986	1,280	342	299	26.7	508
1987	1,278	343	298	26.8	488
1988	1,247	310	291	24.9	467
1989	1,241	322		25.9	445

Note: The barefoot doctors in 1965 spent their time half and half in practicing medicine and agriculture. It is not clear to us whether the number of female public health personnel who have been trained in midwifery is included in the total number of midwives in the rural areas.

Source: Zhongguo funu tongji ziliao 1949-1989, 483; Zhongguo weisheng nianjian 1990 (China Public Health Yearbook 1990), 459.

The scope of MCH research and service projects with international organizations is expanding. From 1985 to 1989, a sum of US\$15.33 million was given to China's MCH programs through UNFPA, UNICEF and WHO. Through this assistance, 128 counties in 28 provinces thus set up health care networks.⁶

In June 1989, the third cycle of the UNFPA aid project was approved. This project covers the period from 1990 to 1994 and the total amount for the project will be US\$57 million. The focus of the project will be on the grass-roots level in poor and backward areas in the countryside. Funds for MCH and family planning projects will be US\$20.5 million, accounting for 35 percent of the total funding.⁷

In 1990, the number of MCH clinics in China totaled 2,820, including 20 child health care stations. The number of MCH institutes totaled 328 and the number of beds totaled 32,300. In addition, the number of children's hospitals totaled 33 and the number of beds totaled 7,866.⁸ Birth control operations often are conducted at various MCH institutes. In addition, the MCH network also frequently provides technical guidance and management for family planning.⁹

⁶Du Peidian, 1991, 4.

⁷For details see Ye Liqi, 1991, 6-7 and China Public Health Yearbook 1990, 162.

⁸Information Center for Health Statistics, Ministry of Public Health, 1991, 1,3.

⁹Public Health in the People's Republic of China, 1989, 24.

Often in the rural areas, especially in places where the technical capabilities of the county family planning service stations are substandard, birth control surgery is conducted at various hospitals at the county and the town/township level. Data for 1989 showed that the number of hospitals in China at the county and the town/township level totaled 2,241 and 47,523 respectively. Meanwhile, the number of medical technicians at these two levels totaled 365,867 and 763,426 respectively.¹⁰ Table D.3 illustrates the public health organizations at the village level in the rural areas. These dispensaries have basic equipment and can provide some basic health care, contraceptive supplies and devices, information about birth control and some post-surgical follow up but they do not have the capability to perform any complicated medical treatment.

¹⁰China Public Health Yearbook 1990, 455-456.

Table D.3: Public Health Organizations at the Village Level in the Rural Areas in China, 1985-1989

Year	Number of villages		Number of health rooms at the villages				
			Total	Run by collective units	Joint effort of village doctor and public health personnel	Established at village public health institutes	Run by individuals
	Total	With health room					Others
1985	716,639	625,992	777,674	305,537	88,803	29,769	323,904
1986	738,139	647,850	795,963	298,042	86,016	28,969	349,792
1987	721,327	634,276	807,844	300,315	82,966	29,141	363,285
1988	734,095	641,076	806,497	287,586	78,873	29,845	369,209
1989	743,410	651,089	820,798	263,893	90,745	29,720	396,431

Note: The "Health Room" in Chinese is called "Vilaodian" where only the basic medical service is provided.

Source: China Public Health Yearbook 1990, 459.

Appendix E: Operational Expenditures for Contraceptive Supplies and Devices: Components and Bases for Expenditure Calculation

According to Central Document #7 of 1984, the distribution of contraceptive supplies and the management of expenditures were then being reformed. From 1986 on, any province which applied for and was approved to contract for the responsibility of managing expenditures for contraceptive supplies and devices was obligated to use the new contract system.¹ The details of the system are explained in the following translation from the China Family Planning Yearbook 1986.

Contracted operational expenditures for contraceptive supplies and devices include three components:

(1) Operational expenditures for purchasing contraceptive supplies and devices. The amount is stipulated at 70 percent of the base figure for the contracted expenditures. The State Family Planning Commission controls this component. A contract was signed in accordance with the purchase and allocation plan designed by the State Family Planning Commission and China Pharmaceutical Company at the National Working Conference for Contraceptive Supplies and Devices. As for those provinces and cities which are new participants in the contract responsibility system, the State Family Planning Commission allocates the appropriate funds in advance to the China Pharmaceutical Company for purchase and distribution of supplies and

¹China Family Planning Yearbook 1986, 46-47.

devices. The proportion of allocated funds is calculated according to the quantity of supplies and devices designated for each new province and city by the allocation plan which was drawn up at the working conference and the required expenditure is calculated accordingly.

(2) Expenditures for business activities. The amount is stipulated at 15 percent of the base figure for the contracted expenditures. The State Family Planning Commission allocates this amount lump-sum to the provinces which sign contracts. The allocated amount is used to cover business expenses related to distributing contraceptive supplies and devices (such as warehousing, transferring, purchasing transportation vehicles and necessary equipment, and maintaining warehouses).

(3) Floating operational expenditures. The amount is stipulated at 15 percent of the base figure for the contracted expenditures. The State Family Planning Commission holds these funds in escrow. According to the year-end evaluation, those provinces which had met the evaluation standards set in "Measures for Managing the Contraceptive Supplies and Devices" are then given the entire amount of the floating operational expenditures. Those provinces which fail to meet the standards are deprived of part or all floating operational expenditures, depending on the situation.

As for floating operational expenditures which are given to the provinces at the year-end, two-thirds of the amount should be retained and applied to the following year's expenditures for purchases of contraceptive supplies and devices. The remaining one-third of the amount can be

used for business activities (including business establishment). A small portion of this remainder can also be used as welfare funds or bonuses for family planning workers. The standard and the scope for the bonuses have to conform to the relevant regulations stipulated by the state.

Once the contracted expenditures are approved, the contract is valid for three years. The methods for calculating the base figures for the contracted expenditures are as follows:

1. Based on the statistical data as of the end of June 1985, each contraceptive surgery performed prior to that date will be calculated at 0.18 yuan per surgery.

2. Based on the statistical data of users of contraceptive supplies and devices as of the end of June 1985, users of condoms will be calculated at six yuan per person, and users of oral pills, injections or spermicide will be calculated at an average of three yuan per person.

3. The sum of the two groups listed above would be used as the base figure for the 1986 contracted expenditures for contraceptive supplies and devices.

Appendix F: Utilization of Fines for Births Outside the Plan

There are various ways that localities utilize the money collected through fines for births outside the official birth plan. The following examples illustrate how the money may be allocated.

In Xinjiang Province, the excessive birth fines collected from the individual owners of businesses are controlled and managed by the county and city family planning committees for expenditures of the family planning operation. By the end of each year, 10 percent of this fund will be used to reward the advanced units and individuals involved in family planning, business administration, public security or individual labor force associations.¹

Yibin district in Sichuan Province has a special regulation regarding the excessive birth fine, under which the family planning committee at the prefecture level keeps 5 percent of the money, the county level keeps 20 percent, the district level keeps 5 percent, and the village level keeps 70 percent of the fine. Specific rules were stipulated for the utilization of the fines at the village level. The distribution of the fines is as follows:

¹Xinjiang Family Planning Committee (1988) Document # 15.

5 percent for one-child health care; 10 percent for the hardship family subsidy; 3 percent for incentives for parents with only one child; 25 percent for IEC; 15 percent for routine examination of women; 15 percent for the subsidy for the IEC team members; 10 percent for the subsidy of the grass-roots service stations; 10 percent for the contraceptive operation fees; and 7 percent for other expenses.²

Jilin Province spends 10 percent of the collected fines for births outside the plan to subsidize the service stations and service offices below the county level.³ Fujian Province established a population endowment funded by collecting one to two yuan from each person plus 10 percent of the excessive birth fines.⁴ Weichang County in Hebei Province also established a population endowment funded by collecting one yuan per person in the rural area plus 60 percent of the excessive birth fines. Interest earned from this fund is used to purchase surgical equipment for the 32 town/township family planning service stations, to improve the working conditions of 21 operation rooms, to send 18 staff for one-year further training, and to pay for an additional 360 full-time family planning workers in towns/townships and villages.⁵

²Cheng and Wu, 1989, 53-54.

³Office of Culture, Education, Administration and Finance under the Department of Finance, Jilin Province, 1988, 2.

⁴Fujian Provincial Committee and Provincial Government, 1991, 1.

⁵Wang Zhiqiang, 1989, 1.

Appendix G: Funds for Building and Equipping China's Family Planning Service Stations

Most of the 2,251 established family planning service stations at the county level in China are in need of additional equipment and instruments. In 1989, a special fund of 36 million yuan was allocated by central finance to subsidize purchases of machinery and equipment for 698 family planning service stations at the county level. By the end of 1989, there were altogether 798 service stations at the county level that were fully equipped and were capable of performing a variety of birth control operations. However, about 60,000 to 100,000 yuan per station is still required for purchasing necessary equipment for the remaining 1,453 service stations. The planned source for underwriting the expenditures is to obtain two-thirds of the subsidy from central finance and one-third of the subsidy from local finance. The amount will be allocated over three to four years.¹

Hainan Province raised 500,000 yuan in funds to purchase new instruments for service stations. Of this amount, 300,000 yuan was allocated by the State Family Planning Commission and 200,000 yuan was allocated by the provincial finance department.²

¹China Family Planning Yearbook 1990, 146-147.

²China Family Planning Yearbook 1990, 287.

In 1989, Shanxi Province spent 2.3 million yuan to purchase and install 6,223 pieces of medical and IEC equipment in 58 birth control service stations at the county level. Of this amount, 1.6 million yuan was allocated by the State Family Planning Commission and 0.7 million yuan was allocated by the provincial family planning committee. In addition, county family planning committees invested 0.78 million yuan to remodel these service stations.³

In 1989, Gansu Province's investment in family planning capital construction totaled 4.09 million yuan. The money was mainly spent on establishing service stations at the prefecture and county levels and in renovating some office buildings and residential buildings. Of this amount, 0.5 million yuan was capital construction investment from the provincial level; 0.75 million yuan was renovation investment; 1.47 million yuan was investment from the prefecture level, and 1.37 million yuan was investment from the county level.⁴

In 1989, the national and Sichuan provincial financial departments allocated a special fund of 8.66 million yuan to Sichuan Province family planning operations as a subsidy for equipping and renovating the family planning propaganda and technical service stations at the grass-roots level. In 1989, Sichuan Province also invested 7.868 million yuan in building 56,000 square meters of space for family planning project accommodation. Among the total,

³China Family Planning Yearbook 1990, 224-225.

⁴China Family Planning Yearbook 1990, 302.

the state invested 0.5 million yuan, the province invested 0.5 million yuan and the family planning department itself raised 6.86 million yuan.⁵

Based on the rule that each level pays one third of the funds, the financial departments at the provincial, prefectural, and county levels in Guizhou Province equally shared the expenses for investment in the capital construction of the family planning IEC and technical advisory institutes (stations) in 1985.⁶

Referring to funding for family planning service stations at the county level, Madam Peng Peiyun, Minister of the State Family Planning Commission, said,

Construction funds for service stations at the county level, according to the current financial and planning management system, will mainly come from the localities. That is, the county finance department will allocate a little bit more, higher levels will subsidize a little bit more, the county will obtain a portion of the excessive birth fines in accordance with the regulation and the locality will help itself by increasing revenues and economizing on expenditures.⁷

In addition, many advanced instruments were imported from abroad for the family planning program, funded by US\$1.61 million from UNFPA for the period 1985-1989.⁸

⁵China Family Planning Yearbook 1990, 290.

⁶China Family Planning Yearbook 1986, 168.

⁷Peng Peiyun, 1990, 1.

⁸China Family Planning Yearbook 1990, 165.

Bibliography

- Aird, J. (1972) "Population policy and demographic prospects in the People's Republic of China," in U.S. Congress, Joint Economic Committee, People's Republic of China: An Economic Assessment. Washington, D.C.: U.S. Government Printing Office: 220-331.
- Aird, J. (1990) Slaughter of the Innocents: Coercive Birth Control in China. Washington, D.C.: American Enterprise Institute Press.
- Banister, J. (1984) "Implications of sex ratio data from China's 1982 census," presented at the Workshop on China's 1982 Population Census, Honolulu, Dec. 1984.
- Banister, J. (1986a) "Family planning and fertility in China," presented at the Hearings on Political Developments and Human Rights in the People's Republic of China before the Subcommittee on Human Rights and International Organizations and the Subcommittee on Asian and Pacific Affairs of the Committee on Foreign Affairs, U.S. House of Representatives, Ninety-ninth Congress, First Session, Washington, D.C.: U.S. Government Printing Office, 1986: 123-193, 298-311.
- Banister, J. (1986b) China: Recent Trends in Health and Mortality. Washington, D.C.: U.S. Bureau of the Census. Center for International Research Staff Paper No. 23.
- Banister, J. (1987) China's Changing Population. Stanford, Cal.: Stanford University Press.
- Banister, J. (1989) "The Aging of China's Urban and Rural Populations," presented at the International Academic Conference on China's Population Aging, Beijing, Dec. 1989.
- Banister, J. (1991) "China's population: Size, control, and composition," presented at the conference on The Chinese and their Future: Beijing, Taipei, and Hong Kong, Washington, D.C., Jan. 1991.
- Banister, J. (1992) "China: Recent Mortality Levels and Trends," presented at the annual meeting of the Population Association of America, Denver, Colorado, May 1992.
- Barclay, G., A. Coale, M. Stoto, and J. Trussell (1976) "A reassessment of the demography of traditional rural China," Population Index, 42 (4), Oct. 1976: 606-635.
- Bongaarts, J., and R. Potter (1983) Fertility, Biology, and Behavior, An Analysis of the Proximate Determinants. New York: Academic Press.

- Cao Jingchun (1991) "Ratio Between Input and Output in Family Planning," Renmin ribao [People's Daily], Apr. 29, 1991: 4, trans. as "Increased Funding for Family Planning Urged," FBIS Daily Report, FBIS-CHI-91-091, May 10, 1991: 28-29.
- Cao Xu et al. (1987) Laodong gongzi cidian [Glossary of Labor Wages]. Jilin: Jilin People's Publishing House.
- Center for International Research (forthcoming) World Population Profile: 1994. Washington, D.C.: U.S. Government Printing Office.
- Chen Bowen (1989) "Yuanhai kaifang jingji huodong renkou biandong yu guanli zhaokai yantaohui zongshu" [A summary of the conference on changes in and control of the economically active population in the coastal open areas], Zhongguo renkou bao [China Population], May 12, 1989, 3.
- Chen Jialin and Luo Bowei (1985) "Childbearing motives of unmarried youth surveyed," Renkou yu jingji [Population and Economy], 3, June 25, 1985: 38-43, trans. in Joint Publications Research Service, JPRS-CPS-85-116, Nov. 29, 1985: 47-55.
- Chen Naian and Zhang Jian (1989) "Nianchan shiyipian biyunyao shengchanxian zai nanjing jiancheng" [A Factory with Capacity of Producing 1 Billion Oral Contraceptive Pills Per Year Was Established in Nanjing], Zhongguo renkou bao [China Population], December 4, 1989: 1.
- Chen Yicai (1990) "Chaosheng zinu fei guanli tanwei" [On the Management of the Excessive Birth Fines], Renkou yanjiu [Population Research], no. 4, July 29, 1990: 60-63.
- Cheng Gang (1990) "CFPA's Contribution to Population Control," Beijing Review, Vol.33, no. 47, Nov. 19-25, 1990: 20-22.
- Cheng Linli and Wu Yousheng (1989) "Jiceng jihuashengyu gongzuo zhong de fanchaxiaoyi yu sikao" [The Differential Effects and Its Consideration of the Family Planning at the Grass-roots Level], Renkou yanjiu [Population Research], no.6, Nov. 29, 1989: 53-54.
- China Family Planning Yearbook (various years) Zhongguo jihua shengyu nianjian [China Family Planning Yearbook]. Beijing: People's Health Press, and School Bookstore Press.
- China Finance Statistics, 1950-1988 (1989) China, Ministry of Finance, General Planning Department Zhongguo caizheng tongji, 1950-1988 [China Finance Statistics, 1950-1988]. Beijing: China Financial and Economic Publishing House.

- China Labor and Wages Statistical Yearbook, 1990 (1990) Guojia tongji ju [China, State Statistical Bureau] Zhongguo laodong gongzi tongji nianjian, 1990 [China Labor Wages Statistical Yearbook, 1990]. Beijing: China Statistical Publishing House.
- China 1982 Census (1985) China, State Council Population Census Office and State Statistical Bureau Department of Population Statistics, Zhongguo 1982-nian renkou pucha ziliao (dianzi jisuanji huizong) [Data from China's 1982 Population Census, Results of Computer Tabulation]. Beijing, China Statistical Publishing House.
- China 1982 Fertility Survey (1984) Analysis on China's National One-per-thousand-population Fertility Sampling Survey. Beijing: China Population Information Centre.
- China 1987 Sample Census (1988) China, State Statistical Bureau, Department of Population Statistics, Zhongguo 1987 nian 1% renkou chouyang diaocha ziliao, quanguo fenge [Tabulations from China's 1987 1% Sample Survey, National Volume]. Beijing: China Statistics Publishing House.
- China 1988 Fertility Survey (1990) China, State Family Planning Commission. Quanguo shengyu jieyu chouyang diaocha quanguo shuju juan, heji [Data from China's National Sample Survey on Fertility and Family Planning, Summary Volume]. Beijing: China Population Publishing House.
- China 1990 Census (1991) China, National Population Census Office under the State Council, Major Figures of the Fourth National Population Census of China. Beijing: China Statistical Publishing House.
- China 1990 Census 10 Percent Sample Tabulation (1991) China, Population Census Office under the State Council and State Statistical Bureau Department of Population Statistics, Zhongguo 1990 nian renkou pucha 10% chouyang ziliao (dianzi jisuanji huizong) [China 1990 Population Census 10 Percent Sample, Computer Tabulation]. Beijing: China Statistical Publishing House.
- China Public Health Yearbook, 1988 (1989) Zhongguo weisheng nianjian bianweihui [China Public Health Yearbook Compilation Commission] Zhongguo weisheng nianjian, 1988 [China Public Health Yearbook, 1988]. Beijing: People's Public Health Publishing House.
- China Public Health Yearbook, 1989 (1990) Zhongguo weisheng nianjian bianweihui [China Public Health Yearbook Compilation Commission] Zhongguo weisheng nianjian, 1989 [China Public Health Yearbook, 1989]. Beijing: People's Public Health Publishing House.

- China Rural Statistical Yearbook, 1990 (1990) Guojia tongji ju [China, State Statistical Bureau] Zhongguo nongcun tongji nianjian (1990) [China Rural Statistical Yearbook, 1990]. Beijing: China Statistical Publishing House.
- China Statistical Yearbook, 1990 (1990) Guojia tongji ju [China, State Statistical Bureau] Zhongguo tongji nianjian, 1990 [China Statistical Yearbook, 1990]. Beijing: China Statistical Publishing House.
- Chu, G. (1989) "Change in China: Where have you gone Mao Zedong?" Centerviews (East-West Center, Honolulu), July-Aug. 1989: 7.
- Chu Hsiaoyang (1991) "Procreation ('The Chinese People--Running Toward Paradise,' Part 1)," Hong Kong Chiushih nientai (The Nineties), March 1, 1991, 81-89, trans as "Article Describes Birth Control Practices," JPRS Report, JPRS-CAR-91-030, May 30, 1991: 78-86.
- Coale, A., Wang Feng, N. Riley, and Lin Fu De (1991) "Recent trends in fertility and nuptiality in China," Science, 251, Jan. 1991: 389-393.
- Compilation of Public Health Laws of the People's Republic of China, 1981-1983 (1985) Office of the Ministry of Public Health Zhonghua renmin gongheguo weisheng fagui huibian, 1981-1983 [Compilation of Public Health Laws of the People's Republic of China, 1981-1983]. Beijing: Laws Publishing House.
- Dai Genyou (1990) Zhongyang yinhang hongguan jingji fenxi [Analysis on the Central Banking Macroeconomy]. Beijing: China Financial Publishing House.
- Du Peidian (1991) "Woguo fuyou weisheng guoji hezuo ri yi kuoda" [The Scope of Joint Research Projects of Maternal and Child Health Care between China and International Organizations Is Expanding Day by Day], Renmin ribao [Peoples' Daily], May 12, 1991: 4.
- Falbo, T., and D. Poston (1991) "More on Research in China," discussion at the 1991 Workshop on Psychosocial Factors in Population Change, Washington, D.C., Mar. 1991.
- Family Planning Committee of Chongqing City (1991) "Jianquan jiceng jihua shengyu gongzuo jigou; jiaqiang jiceng jihua shengyu ganbu guanli" [To Improve the Family Planning Organizations at the Grass-roots Level; To Strengthen the Work of Managing the Family Planning Cadres at the Grass-roots Level], Renkou Dongtai [Population Review], no.1, Feb. 25, 1991: 19-21.

- Family Planning Committee of Yi District in Zaozhuang City of Shandong Province (1991) "Cunji jihuashengyu guanli gongzuo chutan" [Primary Discussion on Family Planning Program Management at the Village Level], Zhongguo renkou bao [China Population], May 31, 1991: 2.
- Fan Zhigang and Zhang Xiaosen (1989) "Kaituo jieyu jishu fuwu zhong de gaige xinlu" [To Open Up a New Reformed Way for Birth Control Technology Service], Zhongguo renkou bao [China Population], July 10, 1989: 1.
- Foreign Labor Trends, China, 1989-1990 (1991) American Embassy, Beijing Foreign Labor Trends, China, 1989-1990, annual report released by U.S. Department of Labor, Bureau of International Labor Affairs.
- Freedman, R., Xiao Zhenyu, Li Bohua, and W. Lavelly (1988) "Local area variations in reproductive behavior in the People's Republic of China, 1973-1982," Population Studies, 42: 39-57.
- Fujian Provincial Committee and Provincial Government (1991) "Zhengshi luohou, fendou sannian, shixian gongzuo dabiao" [To tackle backwardness and to achieve the goal by hard work in the next three years], Zhongguo renkou bao [China Population], May 24, 1991: 1.
- Gao Ersheng, Gu Xingyuan, and Zhang Xuezhen (1990) Jiceng jihua shengyu pingjia [Evaluation of Family Planning Program at the Grass-roots Level]. Beijing: China Population Publishing House.
- Hardee-Cleaveland, K., and J. Banister (1988) "Fertility policy and implementation in China, 1986-88," Population and Development Review, 14 (2): 245-286.
- Henshaw, S., and E. Morrow (1990) Induced Abortion: A World Review, 1990 Supplement. New York: Alan Guttmacher Institute.
- Historical Experience of New China's Preventive Medicine (1990) Xinzhongguo yufang yixue lishi jingyan bianweihui [New China's Preventive Medicine History Compilation Commission] Xinzhongguo yufang yixue lishi jingyan [Historical Experience of New China's Preventive Medicine]. Beijing: People's Public Health Publishing House.
- Information Center for Health Statistics, Ministry of Public Health (1991) "1990 woguo weisheng shiye fazhan qingkuang tongji gongbao" [Communique on the Development of China's Public Health Undertakings in 1990], Jiankang bao [Health Daily], April 11, 1991: 1,3.

- Inventory of Population Projects in Developing Countries Around the world, 1988/1989. Population Division, Department of International Economic and Social Affairs of the United Nations Inventory of Population Projects in Developing Countries Around the world, 1988/1989. New York: United Nations Population Fund: 112-122.
- Inventory of Population Projects in Developing Countries Around the world, 1989/1990. Population Division, Department of International Economic and Social Affairs of the United Nations Inventory of Population Projects in Developing Countries Around the world, 1989/1990. New York: United Nations Population Fund: 110-120.
- Lan Qing (1990) "Jisheng jishu fuwu wangluo chengji xiren" [Pleasant result in establishing network of family planning technique service], Zhongguo renkou bao [China Population], Nov. 16, 1990: 1.
- Lavelly, W. (1989) "Demographic and social change in China," in C. Morrison and R. Dernberger, eds., Asia-Pacific Report 1989; Focus: China in the Reform Era. Honolulu: East-West Center: 65-73.
- Lavelly, W., and R. Freedman (1990) "The origins of the Chinese fertility decline," Demography, 27 (3), Aug. 1990: 357-367.
- Li Honggui (1991) "A brief account of China's national sampling survey on fertility and contraception," presented at the International Seminar on Fertility and Contraception of China, Beijing, Aug. 1991.
- Li Jingneng and Guo Yang (1991) "The changing trend of the age at first marriage of Chinese women and its comparative analysis," presented at the International Seminar on Fertility and Contraception of China, Beijing, Aug. 1991.
- Li Xiangdong (1990) "Geji jishengxie da liushi duo wan ge huiyuan zongshu liangqian babai duo wan ming" [Family Planning Associations at All Levels Totaled More Than 600,000 and Members Totaled More Than 28,000,000], Zhongguo renkou bao [China Population], Nov. 23, 1990: 2.
- Lu Guanghui and Ge Shijun (1987) "Qian tan nongye shengchan zerenzhi dui jihua shengyu gongzuo de zuoyong" [A brief discussion of the effects of the agricultural production responsibility system on family planning work], Zhongguo jihua shengyu bao [China Population], July 17, 1987: 2.
- Neumann, A., and Wen-pin Chang (1988) "Paying for Family Planning in China," Health Policy and Planning, 3 (2), 1988: 119-130.

- Office of Contraceptive Supplies and Devices, State Family Planning Commission (1989) "Tantan biyun yaoju gongying de 'shuangguizhi'" [On the 'Dual-Track' System of Distributing Contraceptive Supplies and Devices], Zhongguo renkou bao [China Population], March 27, 1989: 2.
- Office of Culture, Education, Administration and Finance under the Department of Finance, Jilin Province (1988) "Gaohao jihuashengyu fuwujian jianshe" [To Improve the Establishment of Family Planning Service Stations], Zhongguo renkou bao [China Population], November 18, 1988: 2.
- Peng Peiyun (1989) Jinyibu tongyi sixiang wending zhengce zhujin zhuhao jihuashengyu gongzuo [Further Unify the Ideology, Stabilize the Policy and Firmly Grasp the Work of the Family Planning Program] (A working report included in an unpublished pamphlet delivered in the February 21, 1989 meeting attended by directors of family planning committees nationwide).
- Peng Peiyun (1990) "Zai quanguo jihuashengyu fuwujian gongzuo jingyan jiaoliuhui shang de jianghua" [A Speech Given at the Working Experience Exchange Conference Held for Nationwide Family Planning Service Stations], the speech was given on October 20, 1988 and was republished as a reminder to the workers in 1990, Zhongguo renkou bao [China Population], May 28, 1990: 1.
- Peng Peiyun (1991) "Dali jiaqiang jiceng jihuashengyu gongzuo wei wancheng 'bawu' renkou jihua er nuli fendou" [Vigorously Strengthen the Family Planning Work at the Grass-roots Level and strive Hard to Successfully Implement the Population Plan of the Eighth Five-year Plan], an abstract of Peng's report presented at the National Family Planning Program at the Grass-roots Level Working Experiences Exchange Conference. Renkou dongtai [Population Review], 1, Feb. 25, 1991: 3-9.
- Peng Peiyun (1993) "Jianchi buxiedi zhujin zhuhao jihua shengyu gongzuo, nuli wancheng shisida tichu de renwu" [Make Unremitting Effort to Have a Firm Grasp of the Family Planning Work; Work Hard to Accomplish the Mission Assigned by the 14th Party Congress], an abstract of Peng's speech presented at the 1992 National Conference on Statistical and Analytical Work of the Population Situation. Zhongguo renkou bao [China Population], Mar. 3, 1993: 1.
- Peng Xizhe (1989) "Major determinants of China's fertility transition," China Quarterly, 117, Mar. 1989: 1-37.
- Peng Yueli (1989) "Shimenxian jisheng zhuangan duiwu kongqian wending" [Unprecedented Job Stability for Full-time Family Planning Cadres in Shimen County], Zhongguo renkou bao [China Population], April 7, 1989: 2.

- Peng Zhiliang (1990) "1988 nian zhongguo jihuashengyu gongzuo gaikuang" [The General Situation of China's Family Planning Program in 1988] in Almanac of China's Population 1989. Beijing: Economic Management Publishing House: 385.
- Poston, D., and T. Falbo (1989) Academic and Personality Outcomes of Only and Non-only Children in China: Evidence from a 1987 Survey of the Urban and Rural Areas of Changchun, Jilin Province. Ithaca, NY: Cornell University. Population and Development Program, 1989 Working Papers Series No. 1.05.
- Poston, D., and Gu Baochang (1987) "Socioeconomic development, family planning, and fertility in China," Demography, 24 (4), Nov. 1987: 531-551.
- Public Health in the People's Republic of China, 1989 (1990) Almanac of Chinese Public Health Editorial Committee Public Health in the People's Republic of China, 1989. Beijing: The People's Medical Publishing House.
- Qiu Shuhua et al. (1984) "A survey of China's birth control among women of child-bearing age," in Analysis on China's National One-per-Thousand-Population Fertility Sampling Survey. Beijing: China Population Information Centre: 139-144.
- Renmin ribao editorial (1991) "Make the Greatest Determination to Control Population Growth," Xinhua Domestic Service in Chinese April 28, 1991, trans. as "Editorial Stresses Population Control," FBIS Daily Report, FBIS-CHI-91-082, April 29, 1991: 31.
- Ross, J., M. Rich, J. Molzan, and M. Pensak, (1988) Family Planning and Child Survival: 100 Developing Countries. New York: Center for Population and Family Health, Columbia University.
- Sanderson, Warren C., and Jee-Peng Tan (1993) Population Issues in Asia. Washington, D.C.: World Bank, Asia Technical Department, Departmental Papers Series No. 5.
- Shen Zhihe (1991) "Zai tan xianji zhan ying jiang jishu fuwu fang shouwei" [Another Discussion on the Topic that Service Stations at the County Level Should Prioritize Technical Services], Zhongguo renkou bao [China Population], March 1, 1991: 2.
- Song Yixia (1990) "Woguo jin banshu yihun yuling funu yong yaoju biyun" [Almost Fifty Percent of Married Women of Childbearing Age in China Are Using Contraceptive Supplies and Devices], Zhongguo renkou bao [China Population], Nov. 16, 1990: 1.
- Song Yixia (1991) "Qiwu qijian wuguo jisheng ke jigongzuo qude fengshuo chengguo" [China Obtained Great Results in Scientific and Technique Research for Family Planning Program During the Seventh Five-year Plan Period], Zhongguo renkou bao [China Population], July 8, 1991: 1.

- SSB (1987) China, State Statistical Bureau, Department of Population Statistics, "China's population policy successful," China Population Newsletter (China Population Information Center), 4 (3), June 1987: 1-3.
- Staff Reporter (1990) "Family Planning Agency to Expand," China Daily Nov. 22, 1990: 3.
- Su Xiaogang (1988) "Angang shoupi jisheng zhuangan tongguo zhuanye jishu zhicheng zige pingshen" [The First Batch of Full-time Family Planning Cadres from Anshan Steel and Iron Company Passed the Technical Professional Qualification Test], Zhongguo jihuashengyu bao [China Family Planning Daily], June 10, 1988: 1.
- Sun Nianjiu (1991) "Shandong xiang jisheng bumen jiada touru" [Shandong Province Increases Its Investment in Family Planning Departments], Zhongguo renkou bao [China Population], August 9, 1991: 1.
- UNICEF (1989) Children and Women of China: A UNICEF Situation Analysis. Beijing: United Nations Children's Fund.
- United Nations ESCAP (1991) Economic and Social Commission for Asia and the Pacific, China, Accessibility of Contraceptives. New York: United Nations. Asian Population Studies Series, No. 103-B.
- Wang Chongyi et al. (1986) Dangdai zhongguo de weisheng shiye (xia ce) [Public Health Undertakings in Contemporary China, Vol. II]. Beijing: Zhongguo shehui kexue chubanshe 1986.
- Wang Shaoxian, Weng Shi-Gui, and Zhang Ming (1991) "Contraceptive use-effectiveness in China," presented at the International Seminar on Fertility and Contraception of China, Beijing, Aug. 1991.
- Wang Shoudao (1991) "Jiejue zhongguo renkou wenti de weida shijian" [Wonderful Accomplishment Achieved in Solving the Population Problems], Zhongguo renkou bao [China Population], July 1, 1991: 1,2.
- Wang Shuo (1991) "Fuyou weisheng duanxian jumian jidai liuzhuan" [The Situation of Insufficient Fundings for Maternal and Child Health Care Needs to Be Turned Around Badly], Jiankang bao [Health Daily], March 17, 1991: 1.
- Wang Yuehua (1990) "Difficulties in Rural Family Planning and Countermeasures," Harbin Heilongjiang Ribao, Oct. 14, 1990: 3, trans. as "Rural Family Planning in Heilongjiang," JPRS Report, JPRS-CAR-90-092, Dec. 21, 1990: 70.

- Wang Zhiqiang (1989) "Weichangxian renkou jijinhui zuoyong xianzhu" [The Population Foundation of Weichang County in Hebei Province is very functional], Zhongguo renkou bao [China Population], December 1, 1989: 1.
- Wei Junshi and Kang Jiang (1988) "Luxian liuji liangyao zhihao jisheng ganbu de kunaobing" [Six Effective Remedies Solve Problems Facing Family Planning Cadres in Lu County], Zhongguo renkou bao [China Population], October 10, 1988: 2.
- Wong, Jan (1990) "One Baby in three Officially 'illegal'," The Globe and Mail. Nov. 28, 1990: A9.
- Xin Renzhou and Zhang Yuxian (1990) "Causes of rural population growth and countermeasures," Zhongguo nongcun jingji [China's Rural Economy], 7, July 20, 1990: 8-12.
- Xinhua English News (1988) "More Leave School," China Daily, June 4, 1988: 3.
- Xinhua English News (1990) "Family Planning Service Network Formed," Xinhua news dispatched from Kunming, Yunnan, Nov. 9, 1990, reported in JPRS Report, JPRS-CAR-90-088, Nov. 28, 1990: 44.
- Xinhua report (1991) "Decision of CPC Central Committee, State Council on Stepping Up Family Planning Work, Strictly Controlling Population Growth," Xinhua Domestic Service, June 12, 1991, trans. as "Decision on Stepping Up Family Planning Work," FBIS Daily Report, FBIS-CHI-91-119, June 20, 1991: 33-36.
- Xue Baosheng (1990) "Guanyu xingzhengcun jihuashengyu guanli gongzuo de diaocha yu sikao" [A Survey of the Family Planning Management on the Village Level of Administrative Unit], Renkou xuekan, [Population Journal], no. 3, June 20, 1990: 62-64.
- Yang Deqing (1990) "Lun jihuashengyu gongzuo de shehui jingji xiaoyi" [On socio-economic benefits of the family planning program], Zhongguo renkou kexue [Population Science of China], No. 4, Aug. 1, 1990: 33-36.
- Yang Hongyu (1991) "Quanguo yi you xiangcun jihua shengyu xiehui liushi duowange" [More Than 600,000 Family Planning Associations Have Been Established in China's Rural Areas], Renmin ribao [People's Daily], July 23, 1991: 1.
- Yang Ming (1989) "Moqing xianzhuang, tichu duice" [Understand the Current Situation; Provide Suggestions for Countermeasures], Zhongguo renkou bao [China Population], April 24, 1989: 1.

- Ye Liqi (1991) "Zhongguo-lianheguo renkou jijin hezuo shunian chengguo jianjie, 1979-1989" [A Brief Introduction to the Results of Joint Projects between China and UNFPA, 1979-1989], Renkou yu yousheng [Population and Eugenics], no.3, Aug.1, 1991: 6-7.
- Yu Changhong (1990) "Peng Peiyun Urges Leadership in Family Planning," Xinhua Domestic Service in Chinese, Nov. 20, 1990, translation in FBIS Daily Report, FBIS-CHI-90-226, Nov. 23, 1990: 18.
- Zha Ruichuan and Liu Jintang (1991) "The Period and Cohort Analysis of Marriage and Fertility of Chinese Women," presented at the International Seminar on Fertility and Contraception of China, Beijing, Aug. 1991.
- Zhang Haihong, Ying Su, Ma Luxia and Yang Xingli (1989) "Fujian, Hebei, Henan dengsheng yi shiji xingdong renzhen guanche Li Peng zongli jianghua he quanguo jishengwei zhuren huiyi jingshen" [Fujian, Hebei and Henan and Other Provinces Took Actions to Seriously Implement the Essentials of the Talk Given by Premier Li Peng and of the National Family Planning Directors' Meeting], Zhongguo renkou bao [China Population], April 7, 1989: 1.
- Zhang Hong (1991) "Guojia jishengwei yaoju fuwuzhongxin chengji xianju" [Great Achievement Obtained by the State Family Planning Commission's Center for Contraceptive Supplies and Devices], Zhongguo renkou bao [China Population], February 8, 1991: 1.
- Zhao Xuan (1991) "How many births were averted in the past 20 years?" presented at the International Seminar on Fertility and Contraception of China, Beijing, Aug. 1991.
- Zhao Zhipei (1988) "IEC Management in China's Population Programme," Inside Perspectives on China's Population Programme, Occasional Paper no. 4. International Council on Management of Population Programmes, 1988.
- Zhaxilangjie, and Zang Geng (1991) "The sampling survey on fertility and contraception in the Tibet Autonomous Region," presented at the International Seminar on Fertility and Contraception of China, Beijing, Aug. 1991.
- Zeng Yi (1992) "An Analysis of the Causes and Implications of the Recent Increase in the Sex Ratio at Birth in China," presented at the International Seminar on China's 1990 Population Census, Beijing, Oct. 1992.
- Zheng Zemin (1991) "Neimenggu fuyou weisheng duanxian dedao jiaqiang" [The Situation of Funding for Maternal and Child Health Care in Inner Mongolia Has Been Improved], Jiankang bao [Health Daily], April 13, 1991: 1.

Zhu Li (1989) "Family Planning To Emphasize Economic as Well as Administrative Methods," Jingji cankao [Economic Information Daily], March 10, 1989, 4, trans. as "Family Planning Beset with Difficulties," JPRS Report, JPRS-CAR-89-047, May 17, 1989: 39.

Zhu Li (1991) "Renkou yifa guanli shehui kongzhi" [Population: Managed by Law and Controlled by the Society], Jingji cankao Bao [Economic Information Daily], June 20, 1991: 1.

CENTER FOR INTERNATIONAL RESEARCH

STAFF PAPERS

No. 74	Newly Independent States of the Former Soviet Union: Statistical Materials (Indexed List), by Ludmila Smith and John Dunlop.....	\$ 10.00
No. 73	China's Family Planning Program: Inputs and Outcomes, by Judith Banister and Christina Wu Harbaugh	\$ 15.00
No. 72	An Epidemiological Review of HIV/AIDS in Sub-Saharan Africa, by Peter O. Way and Karen A. Stanecki (1994)	\$ 10.00
No. 71	China's Export Production Profile, by Penelope B. Prime (1994)	\$ 10.00
No. 70	Population and Migration Characteristics of Fujian Province, China, by Judith Banister, Christina Wu Harbaugh, and Ellen Jamison (1993)	\$ 10.00
No. 69	Reform of China's Foreign Trade System and Prospects for Freer Trade, by Loraine A. West (1993)	\$ 10.00
No. 68	Scientists and Engineers in Industrialized Societies: Data Available as of 1992, by Ellen Jamison (1992)	\$ 15.00
No. 67	Problems and Options in China's Public Finance, by Penelope Prime (1992)	\$ 10.00
No. 66	Excess Mortality in Guatemala: A Comparison of Causes of Death in Guatemala and Costa Rica, by Arjun Adlakha and Eduardo Arriaga (1992)	\$ 5.00
No. 65	Vietnam--Population and Dynamics, by Judith Banister (1992)	\$ 10.00
No. 64	Scientists and Engineers in Canada and Sweden, by Ellen Jamison (1991)	\$ 10.00
No. 63	Scientists and Engineers in Industrialized Countries: An Update for France, West Germany, and the United Kingdom, by Ellen Jamison (1991)	\$ 10.00
No. 62	Scientists and Engineers in Malaysia, South Korea, and Taiwan, by Ellen Jamison (1991)	\$ 10.00

No. 61	A Selected Bibliography on Urbanization in China, by Florence Yuan (1991)	\$ 15.00
No. 60	USSR: Gross National Product Accounts, 1985, by Misha Belkindas, Douglas Diamond, and Albina Tretyakova (1991)	\$ 15.00
No. 59	Dollar GNP Estimates for China, by Jeffrey R. Taylor (1991)	\$ 10.00
No. 58	The Demographic Impact of an AIDS Epidemic on an African Country: Application of the iwgAIDS Model, by Peter O. Way and Karen Stanecki (1991)	\$ 10.00
No. 57	Determinants of Unauthorized Migration to the United States, by Linda S. Peterson and Robert Warren (1990)	\$ 5.00
No. 56	The Modernization of the Soviet Agricultural Machine-Building Industry, by David Zaslow (1990)	\$ 10.00
No. 55	Seroprevalence of HIV in Africa: Winter 1990, by Barbara Boyle Torrey and Peter O. Way (1990)	\$ 10.00
No. 54	Estimates and Projections of Educational Attainment in the USSR to the Year 2000, by W. Ward Kingkade (1990)	\$ 10.00
No. 53	Blood Donors and AIDS in Africa: The Gift Relationship Revisited, by Barbara Boyle Torrey, Maurita Mulligan, and Peter O. Way (1990)	\$ 10.00
No. 52	Living Arrangements of the Elderly and Social Policy: A Cross- National Perspective, by Kevin G. Kinsella (1990)	\$ 10.00
No. 51	Updated Statistics on Scientists and Engineers in Industrialized Countries, by Ellen Jamison (1989)	\$ 10.00
No. 50	Labor Force and Informal Employment in Mexico: Recent Characteristics and Trends, by Linda S. Peterson (1989)	\$ 10.00
No. 49	China: The Problem of Employing Surplus Rural Labor, by Jeffrey R. Taylor and Judith Banister (1989)	\$ 10.00
No. 48	USSR: The Belorussian Railroad Experiment, by Meredith M. Sample Heinemeier (1989)	\$ 10.00
No. 47	Mexico's Total, Employed, and Excess Labor Force: Future Prospects, 1985 to 2000, by Frank B. Hobbs (1989)	\$ 10.00
No. 46	Forecasting the Long-Range Planning of Science and Technology in the USSR, by Louvan E. Nolting (1989)	\$ 10.00

No. 45	Estimates and Projections of the Labor Force and Civilian Employment in the USSR: 1950 to 2000, by Stephen Rapawy and W. Ward Kingkade (1988)	\$ 10.00
No. 44	Implications of the Aging of China's Population, by Judith Banister (1988)	\$ 5.00
No. 43	Management and Financing of Research, Development, and Innovation in the Soviet Electrotechnical Industry, by Louvan E. Nolting (1988)	\$ 10.00
No. 42	Bibliography of Soviet Statistical Handbooks, by Timothy E. Heleniak (1988) [updated version of Staff Paper No. 3]	\$ 15.00
No. 41	USSR: Estimates and Projections of the Population by Major Nationality, 1979 to 2050, by W. Ward Kingkade (1988)	\$ 10.00
No. 40	Family Planning in China: Recent Trends, by Karen Hardee-Cleaveland and Judith Banister (1988)	\$ 10.00
No. 39	Indonesia: An Overview of Selected Socioeconomic Subjects, by Kathleen Short (1988)	\$ 10.00
No. 38	The Soviet View on the State of Technological Innovation in the USSR, by Louvan E. Nolting (1988)	\$ 10.00
No. 37	USSR: The Brigade System of Labor Organization and Incentives in Industry and Construction, by Meredith M. Heinemeier (1988)	\$ 5.00
No. 36	USSR: Trends in Fuel and Energy Consumption by Sector and Fuel, 1970-1980, by Matthew J. Sagers and Albina Tretyakova (1988)	\$ 10.00
No. 35	Aging in the Third World, by Kevin G. Kinsella (1988)	\$ 10.00
No. 34	Afghanistan: A Demographic Profile, by Frank B. Hobbs (1988)	\$ 10.00
No. 33	Estimates and Projections of the Population of the USSR: 1979 to 2025, by W. Ward Kingkade (1987)	\$ 10.00
No. 32	USSR: Motor Fuel Use and Conservation in Transportation and Agriculture, 1970 to 1984, by Albina Tretyakova and Barry Kostinsky (1987)	\$ 10.00
No. 31	China: Consumer Demand Statistical Update, by Jeffrey R. Taylor (1987)	\$ 15.00
No. 30	USSR: Energy Consumption in the Housing and Municipal Sector, by Matthew J. Sagers and Albina Tretyakova (1987)	\$ 10.00

No. 29	USSR: Energy Consumption in the Chemical, Petrochemical, and Petroleum Refining Industries, by Matthew J. Sagers and Albina Tretyakova (1987)	\$ 5.00
No. 28	Fuel and Energy Use in the Soviet Metallurgy Industries, by Matthew J. Sagers and Albina Tretyakova (1987)	\$ 10.00
No. 27	Future Implications of Alternative Family Planning Policies in China, by John S. Aird (1986)	\$ 5.00
No. 26	Scientists and Engineers in Industrialized Countries: A Comparison of Characteristics for France, West Germany, Japan, the United Kingdom, and the United States, by Peter O. Way and Ellen Jamison (1986).....	\$ 15.00
No. 25	Central American Migration: Past and Present, by Linda S. Peterson (1986)	\$ 10.00
No. 24	A Bibliography of National Income Accounting in China, by Rebecca A. Hatch (1986)	\$ 5.00
No. 23	China: Recent Trends in Health and Mortality, by Judith Banister (1986)	\$ 10.00
No. 22	China's Price Structure in International Perspective, by Jeffrey R. Taylor (1986)	\$ 5.00
No. 21	Demographic Estimates, Projections, and Selected Social Characteristics of the Population of India, by Frank B. Hobbs (1986)	\$ 10.00
No. 20	Cost Estimates for the Soviet Oil Industry: 1970 to 1990, by Albina Tretyakova and Meredith Heinemeier (1986)	\$ 10.00
No. 19	Cost Estimates for the Soviet Gas Industry: 1970 to 1990, by Albina Tretyakova and Meredith Heinemeier (1986)	\$ 10.00
No. 18	Cost Estimates for the Soviet Coal Industry: 1970 to 1990, by Albina Tretyakova and Meredith Heinemeier (1986)	\$ 10.00
No. 17	Soviet Foreign Trade in Foodstuffs: A Calorie Measure, by Vladimir G. Treml (1986)	\$ 10.00
No. 16	Employment Outlook for China to the Year 2000, by Jeffrey R. Taylor (1986)	\$ 5.00
No. 15	Urban-Rural Population Projections for China, by Judith Banister (1986)	
	Report only	\$ 10.00
	Report with medium projection printout	\$ 12.50
	Report with high, medium, and low projection printouts	\$ 16.50

No. 14	Natural Gas Liquids and the Soviet Gas Processing Industry, by Matthew J. Sagers (1986)	\$ 10.00
No. 13	1977 Consumption by Industrial Sector of the USSR, by Meredith Heinemeier (1986)	\$ 10.00
No. 11	The Freight Rate Structure on Soviet Railroads, by Matthew J. Sagers and Milford B. Green (1985)	\$ 5.00
No. 10	Civilian Employment in the USSR: 1950 to 1983, by Stephen Rapawy (1985)	\$ 5.00
No. 9	Evaluation of Selected Soviet Population Statistics, by W. Ward Kingkade (1985)	\$ 5.00
No. 8	Reestimation of Gross Value of Industrial Output by Branch of Production for the People's Republic of China, 1952-1957, by Jeffrey R. Taylor (1983)	\$ 5.00
No. 7	Components of Gross Investment in 1966 and 1972 Soviet Input-Output Tables, by James W. Gillula (1984)	\$ 5.00
No. 6	Issues and Implications of the Aging Japanese Population, by Peter O. Way (1984)	\$ 10.00
No. 5	A Compendium of Soviet Health Statistics, by Murray Feshbach (1985)	\$ 10.00
No. 4	Restructuring the Soviet Petroleum Refining Industry, by Matthew J. Sagers and Albina Tretyakova (1985)	\$ 10.00
No. 3	Bibliography of Regional Statistical Handbooks in the USSR, by Meredith M. Heinemeier (1984)	See SP No. 42
No. 2	Refinery Throughput in the USSR, by Matthew J. Sagers (1984)	\$ 10.00
No. 1	Construction of a 1977 Input-Output Table, by Dimitri M. Gallik, et al. (1984)	\$ 10.00

✓



A000024381208



PENN STATE UNIVERSITY LIBRARIES



A000031429979